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# JOURNAL of FORENSIC ODONTO-STOMATOLOGY

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### IDEALS 9th International Congress on Dental Law and Ethics. Leuven, Belgium, August,22-24, 2012

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### IDEALS 9th International Congress on Dental Law and Ethics. Leuven, Belgium, August,22-24, 2012

## EDITORIAL

Ethics and law pertain to every aspect of dentistry and because of this (or in spite of it) many do not regard it as a specialist area. Silos of specialization have evolved in dentistry providing even more reason to have a group that brings dentists together to reflect on the dilemmas that are common, to examine basic ethical and legal principles with a contemporary focus, to share research and experiences. The objectives of the International Dental Ethics and Law Society (IDEALS) achieve this goal.

IDEALS evolved from the International Congress on Dental Law in 1992, with the objectives of exchanging ideas and experiences, advancing knowledge and academic education, promoting research, and encouraging the development of public policies related to dental ethics and law. Biennial congresses in different countries feature cross-cultural and international expertise – the latest congress had representatives from 26 countries.

Yvo Vermylen (Belgium) organized the first congress in 1992 and became the first president of IDEALS. He was skillfully supported by Jos Welie (USA) as the hard working secretary. Yvo was also the organizer of the 2012 IDEALS Congress in Leuven. This supplement to JFOS incorporates nine of the fifty oral presentations. A highlight of the congresses is the variety of presentations, not just in the topics covered, international reach, and the disciplines represented, but also in the style of delivery. Presentations include scientific research, academic reviews, discussion papers and case studies, with plenty of time allowed for vigorous discussion.

Basic ethical principles are always tested by contemporary dilemmas and each era must find solutions to reflect society's requirements. Similarly, legislation provides for society's changing needs in order and justice. Some of the pressing challenges of today deal with global mobility, with the commercialization of professional services and with the conflict between rights, entitlements and individual responsibility. These papers provide an insight into how dentistry is involved with, and deals with these dilemmas.

The movement of people across borders in the European Union requires EU and national laws to cover financing and reimbursement for treatment and set a standard for liability and insurance. One paper deals with this. Another paper examines the issue of national requirements for dentists who interact with the courts as expert witnesses or consultants. Whilst there are variations across borders, the benefit of understanding different systems is discussed.

The irregular migration of people as a result of conflicts can result in tragedy particularly in sea crossings. The victims' bodies need identification, yet problems occur in the absence of records. Additional ethical problems are experienced when the immigrants are living children. Not only is identification needed but also age clarification – again this is usually confounded by scarce documentation.

The commercialization of dentistry is a constant item of general discussion and is always proclaimed to be 'worse now than in the past' yet there are contemporary ethical aspects of this perennial topic. More and more dentists are required to translate immediate and long-term dental care – especially resulting from trauma – into monetary terms either for court decisions or for no-fault compensation. They are also required to determine pre-existing conditions for exclusion. Conflict of interest situations may arise for those treating the patient as well as concerns for justice and beneficence. Information is so widely available via the Internet, that patients may feel confident to direct their own treatment or demand inappropriate treatment. That the line between a profession and a business service is blurring, provides a rich source for discussion on contemporary ethics. Several papers cover these topics.

In those countries with the financial ability to provide dental services to the disadvantaged, the distinction between requiring a level of personal responsibility for oral health and providing support for those in need is emerging as topic for debate. A paper supplies the opportunity for reflection on this issue. Another paper provides the results of a survey of dentists treating patients with a mental health disability. It reports on the level of restraint that respondents found to be acceptable and the emotional toll on the treating dentist. A further paper presents the difficulty in satisfying both the best practice in dentistry and the rights of an individual to adhere to religious practices. It describes the DVI procedures following the 2004 tsunami in Aceh, with a focus on the cultural and religions accommodations made during a mass disaster in a tropical country with limited resources.

All the papers in this supplement were developed out of oral presentations at the IDEALS Congress in 2012 in Leuven. They were refereed before being accepted for publication. It has been a privilege for IDEALS to be able to work with IOFOS and to be able to publish this supplement in the JFOS.

I hope that you enjoy reading them, but more importantly that you are sufficiently stimulated and challenged by the ethical and legal problems to discuss them with your friends and colleagues.


| **Suzette Porter** | **YvoVermylen** | **Wolter Brands** |
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### IDEALS 9th International Congress on Dental Law and Ethics. Leuven, Belgium, August,22-24, 2012

# Rights of Dental Patients in the EU - A Legal Assessment

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*The authors declare that they have no conflict of interest.*

*An oral presentation of this paper was delivered at the International Dental Ethics and Law Society (IDEALS) Congress 2012 in Leuven.*

***ABSTRACT***

***This contribution presents the legal framework for intra-European mobility of dental patients. After presenting the EU competences in respect of healthcare and a brief look into the various routes of patient mobility, the article sets out the rules for access to dental care, treatment abroad and reimbursement through social security. In addition, we focus on the impact of European Union (EU) law upon national systems in respect of professional insurance, complaints procedures and information mechanisms. In conclusion, we reflect on the development in EU law of an independent set of rights to cross-border dental care and its consequences for financing and reimbursement of care, as well as for national practices in respect of professional liability and insurance.***

***KEYWORDS*:** Dental patients; dental tourism; EU law; social security.

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## 1. INTRODUCTION TO DENTAL TOURISM IN THE EU

Dental tourism - a novel phenomenon, little investigated and under conceptualized - is mostly held to refer to the deliberate linkage of tourism abroad with non-urgent dental care, often cosmetic dental surgery.[1] European integration has, however, also led to other categories of patients who might seek dental care abroad who do not necessarily fall under the above definition of dental tourists. Nationals of one EU Member State residing and insured in another one, might find it cheaper, safer or more comforting to return to their home state for (general) dental care. Another situation governed by European Union (EU) law is dental care that becomes necessary when the insured person happens to be in a Member State other than the one of affiliation.

The practice of travelling abroad for medical care is the by-product of the increasing liberalization and commodification[2] of healthcare coupled with globalization, or regionalization. Whereas travelling abroad for medical care or wellbeing is by no means novel, patients exhibit a form of 'reverse globalization': people often travel from developed to less developed countries due to costs and waiting lists. Concerns about the quality and safety of care arise in such contexts.[1,3,4] In the EU, the financing of medical care abroad is the highest concern voiced to date.

This article presents the legal framework under which patients receive dental care in a EU Member State other than the one where they are insured. We will not limit ourselves to dental tourists in the strict sense of the word. We extend our legal analysis to EU migrants returning home for dental care, and those who, do not plan to, but are in need of dental care while in another Member State. The paper is structured in four chapters. Chapter two introduces the legal framework for patients' mobility in the EU. Chapter three discusses the rules pertaining to patients' rights, including access to dental care, fees and reimbursement under national social security schemes. Chapter four exposes the effects of EU law upon national administrations in respect of professional insurance and liability, and complaints procedures. Chapter five concludes the paper.

## 2. EUROPE: SHORT HISTORY OF CROSS-BORDER MEDICAL CARE

The EU can only undertake supporting, coordinating and complementary action in order to protect and improve human health (Article 6 Treaty on the Functioning of the EU, hereinafter TFEU).[5] As far as public health is concerned, the Union shall, 'encourage cooperation between the Member States […] and, if necessary, lend support to their action. It shall in particular encourage cooperation between the Member States to improve the complementary nature of their health services in cross-border areas' (Article 168(2) TFEU). The Member States remain responsible for 'management of health services and medical care and the allocation of the resources assigned to them' (Article 168(7) TFEU). Notwithstanding this, at first sight, limited room for EU action, Article 168(1) TFEU forcefully calls for 'a high level of human health protection' in the 'definition and implementation of *all* Union policies and activities' (emphasis added).

EU law has regulated cross-border medical care since 1958 through the mechanism of

social security coordination. This system, currently contained in Regulation 883/2004, covers almost all EU citizens: all nationals of the 27 Member States, who are or have been subject, whether compulsory or on an optional basis, to a general or special social security scheme even if only in respect of one single risk.[6] Member States remain free to define the basket of healthcare to which citizens are entitled and the mechanisms used to finance and deliver that healthcare. In principle, medical care remains territory-bounded, i.e. should be provided in the state of insurance. The Regulation envisages two situations of cross-border care and reimbursement: when medical care becomes necessary during a stay in another Member State, and when the patient travels to another Member State in order to receive treatment there. The latter situation required prior authorisation from the institutions of the state of insurance.

Since the end of the 90s, a line of cases on the basis of the fundamental freedom of movement of services (Article 56 TFEU) has provided a route of patient mobility parallel to that set up by Regulation 883/2004. The consequence of qualifying medical care as a service for the purpose of the Treaty was that patients have the right 'to use services from other Member States without being hindered by restrictive measures imposed by their country or by discriminatory behaviour on the part of public authorities or private operators'.[7] The European Court of Justice (ECJ) has established that healthcare is a service, irrespective of: the form of organization, operation and financing of the health system;[8] the fact that remuneration is not necessarily paid by the one receiving the service;[9] whether it is intra- or extra-mural;[10] the fact that reimbursement of the costs are sought after through social security.[11] In the case of healthcare services in general, restrictions often concern the circumstances in which a Member State may make (on the basis of Regulation 883/2004) reimbursement of the costs subject to prior authorisation. The 'special nature' of medical services does, however, not remove medical services from the field of application of the Treaty.[12] Hence, restrictions on dental patients' freedom of services in a Member State other than the one of insurance cannot be maintained, unless they are justified and proportionate.

In 2011 the ECJ-case law on freedom of movement for patients was codified in Directive 2011/24 (Cross-Border Patients' Rights Directive), which adds new elements in respect of information mechanisms and transparency. Following the case law, the Cross-Border Patients' Rights Directive applies irrespective of the form of organization, delivery and financing method of the national health systems.[13] It is addressed to the Member States who have to transpose it into national law by October 2013. After that date (deviant, c.q. [too] restrictive) national regulation can still be challenged by the EU Commission or by individual patients seeking to enforce their European right to cross-border healthcare.

## *3. CROSS-BORDER DENTAL CARE*

### *3.1. Dental care becomes necessary during stay abroad*

The first situation we will deal with is when a person, insured under the social security scheme of one EU Member State needs[14] dental care during a stay, e.g. as a tourist, in another Member State.[15] As the Patients' Rights Directive is without prejudice to Regulation 883/2004, we are

confronted with the situation that the legislation of the state of stay is applicable in respect of the treatment, while for the purpose of reimbursement the applicable legislation is that of the state of affiliation. Temporary EU residents and visitors receive the same treatment at the same costs as a person insured under the legislation of the state of stay. Therefore, one can receive treatment to which one may not be entitled to according to the legislation of the state of affiliation. Upon return the patient may ask for reimbursement of the costs. If the treatment received abroad does not fall under the benefits to which the patient was entitled to in his/her state of affiliation, the cost of care will not be reimbursed.[16] Otherwise, the costs will be reimbursed according to the rules set out in sub-section 3.3.

### *3.2. EU migrants and dental tourists*

In the second scenario, a person insured under the social security legislation of one Member State travels to another one to receive dental care. We imagine EU migrants travelling to their home state or persons who are genuine dental tourists as defined in the introduction.

#### *3.2.1. Prior authorization required*

The first question we need to address from a legal point of view is whether the treatment sought can be subjected to the requirement of prior authorization. In light of the limited situations where prior authorization is permitted, we argue that dental patients are most likely not subject to such a requirement. However, the assessment might be different for hospital dental treatment. A system of prior authorization is allowed only if a) the healthcare is subjected to planning requirements and involving overnight hospital accommodation or cost-intensive equipment; b) the treatment involves health risks for the patient and the population; or c) the healthcare provider gives reason for serious concern in respect of the quality and safety of the care. Authorisation for cross-border care can, on similar grounds, be refused. In addition, if dental care is subject to prior authorization, this may be rejected on grounds of the possibility of receiving the care in the state of affiliation within a medically justified period of time.[17]

Assuming the dental care sought does require prior authorization, and that the conditions for prior authorization are satisfied, this is awarded on the basis of Regulation 883/2004, unless the patient requests otherwise.[18] When authorization is granted on the basis of Regulation 883/2004,[19] the State of stay is to provide the dental care as if the patient was insured under its own legislation. By means of institutional arrangements between the Member States, there is full reimbursement for the cost of treatment.[20]

The far-reaching implications of the prior authorization are fully revealed by the *Keller*[21] case in which a German national resident in Spain and insured therein received authorization to be treated of a malignant tumour in Germany. Following the medical examinations in Germany, the doctors responsible for the case decided that it was vital that Ms. Keller undergoes an immediate surgical operation, which could only be performed in a private clinic in Switzerland. She was transferred to Switzerland where she was operated and then underwent radiotherapy. The institution of the state of stay must treat the authorized person as if she would be

insured under its legislation, therefore, without requiring the approval of the institution of the state of affiliation, the institution of the state of stay is obliged to provide the treatment corresponding to the medical condition. Once the doctors in the state of stay have decided for the patient to be transferred to a third country, the costs of the treatment incurred there must be borne by the institution of the state of stay, under the legislation it administers and under the same conditions as for persons insured under that legislation. However, if the treatment provided in the third state is among the benefits of the state of affiliation, then the institution of the state of affiliation will assume the costs by reimbursing the institution of the state of stay.

*3.2.2. No prior authorization required*

In most cases patients seeking dental care abroad will not require prior authorization. Under these circumstances, treatment shall be provided in accordance with the legislation of the state of treatment, its standards and guidelines on quality and safety, while, however, having to comply with Union legislation in respect of safety standards.[22] The state of treatment is under the obligation to treat all patients equitably on the basis of their healthcare needs rather than on the basis of their Member State of affiliation.[23] Patients from other Member States can, therefore, not be discriminated on grounds of nationality, including in respect of scales of fees. If care providers under national law set their own prices, these prices must thus apply irrespective of the nationality of the care receivers.[24]

### *3.3. Reimbursement of costs of dental care abroad*

When prior authorization is not/cannot be granted under Regulation 883/2004, the reimbursement of dental costs follows the rules below. If the dental care received abroad does not fall under the benefits to which the insured person is entitled to in the state of affiliation, the costs are born on a private basis. EU law will then not provide a legal basis for claims of reimbursement.

The general principle is that dental care received in another Member State must be reimbursed only if the patient would have been entitled to it in the state of affiliation. The EU-prescribed level of reimbursement is limited to the one that would have been assumed had the treatment been received in the state of affiliation. Member States may, however, unilaterally decide to provide for the more favourable reimbursement of the full costs even if that would exceed the costs in the state of affiliation. Also, they are free to reimburse other costs, such as travel or accommodation, in accordance with national legislation, which should in any case not discriminate between national and non-national EU healthcare providers.

## *4. INFORMATION, COMPLAINTS PROCEDURES, LIABILITY AND PROFESSIONAL INSURANCE*

The state of treatment bears responsibilities in respect of information, ensuring the existence of complaints procedures, systems of professional liability insurance, protection of personal data, and the provision of medical records.[25] The duty of information includes information about: national standards and guidelines of quality and safety; relevant information that enables patients to make informed choices, such as treatment options, availability, quality and safety of healthcare; invoices

and information on prices; and authorisation or registration status, insurance cover or other means of personal or collective protection with regard to professional liability.

Member States must set up national contact points for cross-border health care, to consult with patients' organizations, healthcare providers and insurance alike. In addition to the information mentioned above, contact points should be able to provide information regarding healthcare providers, including information regarding providers' restrictions on their practice, as well as information on patients' rights, complaints procedures and mechanisms for seeking remedies, according to the legislation of that Member State. In addition they must make available information regarding the legal and administrative options available to settle disputes, including in the event of harm arising from cross-border healthcare. Moreover, all this information should be easily accessible, including to people with disabilities, and available in electronic form.[26] The use of language in communications with the patient is not affected, but Member States may use languages other than their official one(s).

The state of affiliation is under the obligation to provide patients with information regarding cross-border healthcare, to offer medical follow-up, if necessary, and finally to ensure that patients have access to their medical records.[27]

Whereas some Member States might already have in place such mechanisms, it is expected that the obligations imposed by the Directive will lead to significant transformations of the national health systems.[28] The benefits of these changes will inevitably spill over to national patients, and to those who purchase dental care through private insurance.

## *5. CONCLUSIONS*

Within the European Union, dental patients can always travel to other Member States to have care provided to them. Whether that care will be reimbursed is dependent on the type and/or urgency of dental care looked for/provided elsewhere in the EU. Presently most non-urgent dental care is not commonly covered by national statutory insurance, therefore EU citizens will often not be able to avail themselves successfully of the reimbursement rights conferred by EU law. In that respect they will only differ from EU citizens looking for dental care outside the Union in as far as they must receive equal treatment with those insured in the state of treatment.

By the end of 2013 EU Member States should have introduced all changes in respect of national contact points, complaints procedures, systems of professional liability insurance, protection of data and continuity of care. Otherwise we can expect a new series of cases in front of the Court of Justice of the EU seeking to redress the problems of national implementation and give full effect to the right to cross-border healthcare.

## *ACKNOWLEDGEMENTS*

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# Personal Responsibility in Oral Health: Ethical Considerations

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*An oral presentation of this paper was delivered at the International Dental Ethics and Law Society (IDEALS) Congress 2012 in Leuven.*

***ABSTRACT***

***Personal responsibility is a powerful idea supported by many values central to West European thought. On the conceptual level personal responsibility is a complex notion. It is important to separate the concept of being responsible for a given state of affairs from the concept of holding people responsible by introducing measures that decrease their share of available resources. Introducing personal responsibility in oral health also has limitations of a more practical nature. Knowledge, social status and other diseases affect the degree to which people can be said to be responsible for their poor oral health. These factors affect people's oral health and their ability to take care of it. Both the conceptual and practical issues at stake are not reasons to abandon the idea of personal responsibility in oral health, but they do affect what the notion means and when it is reasonable to hold people responsible. They also commit people who support the idea of personal responsibility in oral health to supporting the idea of societal responsibility for mitigating the effects of factors that diminish people's responsibility and increase the available information and knowledge in the population.***

***KEYWORDS*****:** Personal responsibility, life-style diseases, distributive justice, oral health

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## *INTRODUCTION*

There is great variety in the health care systems of Western Europe. But in the midst of the variety of organizational structures and financing schemes, one aspect seems remarkably similar. In the area of oral health, private suppliers and private payments are the common denominators.[1] Most normative discussions regarding this topic seek to point out that the asymmetry between oral health and health in general is incoherent. To that end, arguments are presented for an alternative closer to universal coverage.[2-4]

Though such a massive increase in public heath care expenses is hardly on the horizon, the normative relevance of the issue should not be ignored. It is noteworthy that the great bulk of normative literature on oral health leaves little or no room for the idea of personal responsibility. This means that how people have chosen to live their life is not allowed to affect their share of the resources. Personal responsibility is both a provocative and controversial idea and considerable disagreement exists on whether and how it could be taken into consideration, when tough decisions are to be made about the distribution of scarce oral health care resources. The article is a contribution to this discussion.

The article is normative in the sense that it deals with how things ought to be. It is also applied in its approach as it outlines implications and limitations of the principles under discussion. Firstly, it presents the values that support the idea of personal responsibility in oral health. Secondly, it discusses the conceptual issues at stake. Thirdly, it discusses the consequences of the vast range of factors affecting people's oral health and the degree to which we can say they are responsible for it. Finally, it offers some thoughts about what a commitment to personal responsibility in oral health implies in the light of the topics discussed in this paper. Both the conceptual and practical issues at stake are not, as such, reasons to abandon the idea of personal responsibility in oral health, but they affect what the notion means and when it is reasonable to hold people responsible. They also commit people who support the idea of personal responsibility in oral health to supporting the idea of societal responsibility for mitigating the effects of factors that diminish people's responsibility and increase the available

information and knowledge in the population.

## *VALUES SUPPORTING PERSONAL RESPONSIBILITY*

It seems reasonable to start with the most fundamental question. Why should we be concerned with the idea of personal responsibility or more precisely - what values are we accommodating when introducing the idea of responsibility to the area of oral health? Practical reasons like giving people incentives to make prudent choices and accommodating budget constraints might be of some importance, but the issues here are mainly the moral reasons to consider personal responsibility. Such values are often present in discussions about health in general, where the correlation between poor health and specific lifestyles has spurred some to recommend the idea of personal responsibility. The proponents of this position argue that in a world of limited resources, it seems reasonable to take into account whether and how the person in question has influenced his own level of health.

In this discussion it is of interest that the debate about responsibility is far from new [5,6] and that the idea rests on values that are highly influential in modern Western thought. The values will be presented in a concise way, sufficient to demonstrate how they can be said to support the idea of personal responsibility in oral health. In the literature, the values are mostly presented in the context of general health, but they seem equally applicable to responsibility in oral health.

One value is self-determination.[7] The idea is that the individual is the best available judge of how to live his life and thus to make the relevant choices. But the value reflects more than confidence in the individual. It is not only that choices and opportunities to choose are important. It includes commitment to the idea that people's lives may vary in accordance with those choices. This is closely related to the idea of personal responsibility. Thus, self-determination prescribes an approach where distributions of oral health are allowed to vary in accordance with the choices people make.

Another value is sometimes termed solidarity,[8] but is perhaps best understood as reciprocity.[9] It is the idea that we, as members of a given community, owe something to each other. This means that when we make choices in life we should consider how these choices affect others. If our choices mean that we take up a larger

share of the health care resources, reciprocity demands that we chip in and cover the part of the cost that reflects our choices. The idea of reciprocity could make acting with concern for the effects on others a precondition, moral if not actual, for receiving (free) care. If people fail to act in a way that includes such reciprocity, they have forfeited their opportunity to be treated as equals by their peers and on those grounds can be asked to pay for their own treatment.

A third value is desert, which traditionally includes considerations about whether people deserve the situation they end up in. Such a value could support a system where imprudent persons fare worse than others. Desert by most accounts has two meanings: treating people according to their prudential choices, or treating people in accordance with the virtue of their choices. Regardless of the preferred interpretation of desert it can be understood as a rationing criterion that takes into account the choices people have made and allows for letting their fates to vary in a way that reflects those choices.

The fourth value is fairness. As presented by the luck-egalitarian literature on distributive justice, fairness implies that distributions are just, if and only if how well people fare reflects how they have chosen relative to others.[10-13] A related idea is horizontal equality. Often related to Aristotle, this is the idea that like cases should be treated alike and allowing for different treatments of unlike cases. This idea could be used to argue for personal responsibility when people who have acted in ways that affect their oral health negatively are compared to people who have not acted in such ways.

These four values seem to support the idea that personal responsibility should play a role in our distributions of resources in oral health care. They are broad and have much intuitive appeal. They are neither uncontroversial nor uncontestable - few values are - but they are presented in order to show that strong values point to the idea of personal responsibility - values that we would not want to ignore in other assessments of distribution. It remains to be seen whether conceptual or practical issues should lead us to abandon the idea of personal responsibility.

## *THE CONCEPT OF RESPONSIBILITY*

The previous section covers some ground by presenting values in support of introducing a notion of personal responsibility. But any consideration of this must take into account that the values

tell us little about what responsibility means in this context. This is a huge task, given that responsibility is both a controversial and a complex notion. Gerald Dworkin remarked that the distinction between the normative and the mere descriptive sense of the term is "harder to distinguish clearly in the area of responsibility than in any other area of moral philosophy."[14]

The need to make this distinction and to be clear about the use of responsibility is apparent. If I choose not to brush my teeth every night, I am in one sense of the word responsible for not doing so, since this is a choice I make. But if, as a consequence, I end up worse off than others, then who is responsible, in a different sense, for bearing the cost of the consequences of my choice? Is it myself or is it a universal health care system? The literature on personal responsibility has many different takes on how to distinguish between a backward-looking understanding of responsibility and a forward-looking notion. Some suggest that the concepts are related in a very straightforward way that states that whatever you are responsible for in the backward-looking sense, you should bear the consequences in the forward-looking sense. However tempting such a simple view is, it is not plausible. The consequences of a given action are not necessarily straightforward. They depend on many factors such as price structures, the availability of insurance, the possibility of paying for treatment and so forth. So even though one might want to hold people responsible for their actions, what the consequences should be is in many ways a separate, but important, discussion. Such a clarification is of immense importance and neither discussion can be taken lightly. I deliberately refrain from using the term "consequential responsibility"[15] since it seems to exclude measures that hold people responsible for their choices independent of the actual consequence of a choice (if any).[16]

The discussion of what is needed in order to say that a person is responsible for poor oral health includes many important issues. However, the requirements can be outlined conceptually. Firstly, causality in the sense that we should be able to link a person's voluntary choices or omissions to his poor oral health. Also the background factors of the choice must be taken into account; their influence can eliminate or decrease the degree to which people are responsible in the relevant sense. The second discussion concerns how we are to hold people responsible for what we can rightfully say they are responsible for and which of the

broad array of measures to apply. Holding people responsible is not just one thing. One could be asked to pay part of the costs of treatment or be billed for the whole cost. Other measures are denying treatment, taxing certain choices, and queuing people for treatment in accordance with their relative exercise of responsibility.[14]

In relation to the complexities of responsibility mentioned above, the ideal of oral health as such is also a complex notion. A person's oral health is comprised of many things, not only in the sense that many things affect it but also in the sense that oral health is a very broad notion. This means that when we speak of responsibility for oral health, there is an inherent danger of advancing too broad a notion. It seems more precise to speak of being and holding people responsible in particular areas of oral health. The fact that oral health covers a broad range of health issues affecting the state of the mouth, and that many factors contribute to the level of people's oral health makes it less useful to talk of responsibility for oral health as such. We should therefore prefer an approach that talks of being and holding people responsible for specific parts of oral health or specific actions that affect our oral health.

## *FACTORS AFFECTING RESPONSIBILITY*

When we consider responsibility in oral health, many things must be taken into account. The discussion about when a person is indeed responsible for his oral health requires a stringent approach. But after the presentation of values that point to the idea of personal responsibility and the interpretation of how we should conceptualize the idea of responsibility, we still need to discuss the wealth of factors that influence people's health. How can we take them into account in a satisfactory manner? Consider firstly two major categories encompassing the reasons that people have poor oral health. One is internal and has to do with genetics, saliva levels and oral hygiene. The other is external and concerns food intake, accidents etc. To apply the idea of personal responsibility properly and to be able to assert whether a person is responsible for his current level of oral health, the different reasons for poor oral health must be disentangled and sorted based on whether he has acted in a way that caused them. This is both a vast and necessary task.

It is necessary in order to hold people responsible only for those levels of oral

health that can be attributed to their own actions or omissions. The lessons outlined earlier are highly relevant. The right question to ask is not whether it would be just to hold people responsible for their oral health as a whole, but rather whether people's choices have affected parts of their oral health in a way that makes it fair to let them bear some of the consequences for their actions or omissions. Below it will be evaluated how we can include factors that affect not only people's oral health but also their ability to take care of their oral health.

One issue is the availability of information. This can be taken in two ways. One has to do with information and knowledge in society. Do we as a society have sufficient knowledge about what is good and bad for oral health? If we as a society have little knowledge about the causal influences of oral health, then decisions based on this lack of knowledge that end up being bad for people's oral health cannot be considered decisions that people are, in the relevant sense, responsible for. The second related but distinct aspect has to do with the knowledge available to the individual. Though knowledge that is present in society is important, we cannot and should not overlook that differences in knowledge and access to knowledge between individuals are likely to be present and to affect our evaluations of their responsibility.

Another important issue is natural disadvantages. They are not as such indications of good or bad oral health, but nevertheless affect a person's oral health or his ability to take care of his own oral health. Obvious examples are mental illness[17] and diseases limiting the coordinated movement of arms that is needed to properly brush ones teeth, but the occurrence of natural disadvantage can be of a much broader nature. Diseases such as Sjögren's syndrome[18.19] and diabetes[20] limit the production of saliva in the mouth. Saliva serves as a natural defense against caries these diseases and reduction in saliva should be considered as natural barriers that make it harder for some people than for others to protect their oral health. Social circumstance is an important category of barrier. Both oral health and the ability to take care of it are affected by a broad range of social factors. This includes the mother's diet during pregnancy,[21] the social status of children[22-24] and adults.[23]Though they are treated separately for analytical reasons, it will in practice be very hard to isolate the effects of social and natural circumstances on oral health. They interact and knowledge will

sometimes dampen/increase the effect of these circumstances, and is, at the same time, affected by both social and natural circumstances.

## *CONCLUDING CONSIDERATIONS*

The discussion shows that values embraced widely in Western philosophy, theories of distributive justice and medical ethics can be used as arguments for introducing personal responsibility in oral health. It also shows that the term responsibility is marred by controversy and conceptual disagreement. We need to clarify two things: what it means to be responsible for one's oral health, and how we are to hold people responsible who are in such a way responsible, for the state of affairs they brought about. The last thing to consider is that there are several important barriers in society that diminish the degree to which people are responsible for the choices and omissions that affect their oral health. The arguments presented above commit those attracted to personal responsibility in oral health in at least three ways.

- A commitment to mitigate and eliminate social and natural factors affecting people's oral health and the degree to which they can be held responsible.
- A commitment to research and educational initiatives to increase the knowledge in society about oral health and equip individuals to make healthy choices in that regard.
- A commitment to take into account the extent to which the abovementioned initiatives are unsuccessful in a given society, in order to avoid holding people responsible for an oral health deficit for which they are, in the relevant sense, not responsible.

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# Ethics on the Dental treatment of patients with mental disability: results of a Netherlands – Belgium Survey

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***ABSTRACT***

***This study evaluates several ethical dilemmas of by dental practitioners treating persons with mental disabilities (PMD) by dentists in the Netherlands and Belgium. Ethical dental care for PMD is a hot topic. Worldwide different treatment strategies are used in the dental treatment of this patient group. In addition, cultural aspect seems to play an important role in the choices made. The latter can explain the difficulty in creating European and worldwide guidelines on this issue. A questionnaire was sent to dental practitioners interested in treating PMD persons both in the Netherlands and in Belgium including questions on the use of behaviour management techniques, use and attitude towards sedation and physical fixation and the cooperation with other health care personal. Behaviour management techniques and sedation are frequently used. Dentist of the Netherlands and Belgium in general reject the restraint of PMD persons. However, limited use of manual restraint in accordance with the carers and the close surrounding of the patient seems to be accepted. Dental practitioners are sometimes confronted with an emotional dilemma in treating PMD and the majority feels that it is a continuous challenge to obtain optimal result of the dental treatment***

***KEYWORDS*:** Developmentally disabled, mental retardation, ethical treatment, dental treatment

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## *INTRODUCTION*

Research and literature on the use of restraint strategies in dental care for persons with mental disabilities (PMD) are now available including the attitudes of dentists and PMD. Most of this literature covers the use of restraint in dentistry when coping with children and challenging behaviour.

Nunn et al (2004) and Southern Association of Institutional Dentist (SAID) developed documents on the use of physical, mechanical and chemical restraint for PMD.[1] They put an emphasis on a proactive approach to care, rather than merely managing aggression and disruptive behaviour. Due to communication problems, dentistry for the mentally handicapped persons still remains very difficult. Moreover the choice of dental treatment options can be seen as a challenge for the dental practitioner. According to Bridgman and Wilson (2000), consent to treatment, assessment of competency and the use of restraint are the areas of concern.[2,3,4] These authors also point out that the use of restraint is a clinical decision and must be reasonable.

Horsburgh (2005) formulated key issues on the use of restraint and on methods to handle and restrain a PMD.[5] In 2004, Newton et al, investigated the use of Hand over Mouth (HOM) technique and conclude that only a small number of specialist paediatric dental practitioners in the UK use this technique.[6] A study about parental acceptability of behaviour techniques, concludes that parents accept all behaviour management techniques examined in the study except for hand-over-mouth.[7] General anaesthesia is ranked as the third most acceptable technique. This high level of acceptance of general anaesthesia compared to earlier studies may suggest that parental acceptance of this technique is increasing. Kupietzky (2004) points out in an opinion-based paper that the benefits and rationale of conscious sedation with restraint and use local anaesthesia is safe and effective.[8] In his opinion it is a realistic alternative to general anaesthesia in the USA. Manley (2004) and Morris (2004) report that the latter approach is completely unacceptable in the United Kingdom,[9.10] and Stel (2005) also stresses that Kupietzky's point is not fully objective pointing to cultural differences.[11]The aim of the present study is to evaluate ethical considerations expressed by dentists in the Benelux towards the use of physical restraint

strategies for persons with mental disabilities.

## *MATERIAL AND METHOD*

For the Netherlands, a questionnaire was sent to all dentists member of the Dutch Association of Special Care Dentistry (VBTGG). For Belgium, the same questionnaire was distributed during a symposium organised by the Flemish working group of dentist treating patients with Special Needs (WTB). The questionnaire is comprised of the following sections: working environment (city/rural), working situation (private/institution), year of graduation, gender and frequency of treating PMD, attitude to the use of behaviour management techniques, sedation, and fixation. The use of behaviour management techniques including hypnoses, sedation, fixation is asked. Moreover emotional problems as a dentist treating PMD are asked. The SPSS 18 software is used for the statistical analyses. In addition to the analysis and the presentation of descriptive data, the Pearson chi-Square test is used to find out any significant association between different categorical variables and corresponding risk estimates (Odd Ratio). The level of significance is set at 0.05.

## *RESULTS*

Response rate of the study is 66 % (n = 172) in the Netherlands and 95 % (n = 44) in Belgium.

### *Descriptive Analysis*

More then 78 % of dentists who treat PMD graduated longer than 15 years ago and work mainly in an urban environment (66%). Moreover, a majority of dentists treating PMD works exclusively in private offices (54.2%), about 33% of dentists work in an institution or a (university) hospital and the others combine different work environments. The results show that 74 % of the dentists who responded to the questionnaire treat PMD for at least 4 hours a week with a majority treating PMD patients from 4 to 12 hours a week. Almost 75 % of dentists use behaviour management techniques and 37 % give a positive answer to the use of any kind of hypnoses. The number of dentists with a negative attitude towards the use of sedation is limited - fewer then 15 %. The majority (77.8 %) admits to the use of some form of sedation. When sedation is used, most dentists use benzodiazepines (71.3 %). Nitrous oxide is used by 37.5 % of the dentists. Fewer than half of the dentists (43.6 %) report a negative attitude towards the use of physical restraint and 88 % of the dentists never (or extremely

rarely) use any fixation belts or Velcro®. After careful consideration and by mutual agreement, 90.3% of the dentists accept hand fixation of the patient by a carer although the attitude on hand fixation by an accompanying person is rejected by 30 % of the responders. The use of fixation is more accepted in combination with sedation (81.5%) compared to the use without sedation (55 %).

***Inferential analyses***

Some inconsistencies are found between attitude and behaviour. Although a highly significant correlation (0.61 - $p < 0.001$) is observed between the attitude towards and the use of sedation, an important proportion (67%) of dentists who report a negative attitude to the use of sedation report a rather frequent use of sedation techniques. The same highly significant correlation (0.45 - $p< 0.001$) is observed between the attitude towards and the use of fixation by hand. Dentists who oppose the use of restraint score significant lower on the use of manual fixation by the carer (44% versus 85% - $p< 0.01$).

Only 6.9 % of dentists in The Netherlands and Belgium have problems when any kind of force is used to brush the teeth of a PMD. A correlation is found between dentists who accept restraint and dentist who accept brushing with force. ($p< 0.01$).

A large majority of the dentists (90 %) supports an evaluation after treatment if any restraint is used. Both groups, those who accept or reject the use of force during brushing, support the idea of evaluation ($p = 0.67$).

Most differences in use of restraint are found between work situations (Table 1) Except for the use of nitrous oxide sedation, no gender differences are observed. More female dentists regularly use nitrous oxide sedation when treating PMD (49% versus 26%- $p = 0.004$). Differences in the use of nitrous oxide are mainly explained by country and gender. More dentists in the Netherlands and more female dentists use nitrous oxide sedation when treating PMD with respective odds ratio's of 16.95 (95% CI 3.87-71.43) and 3.01 (95% CI 1.60 – 5.65) (Table 2) .

Results show that 85.6 % of the dentists admit that he/she deals with emotional problems in treating PMD, and 93.5 % have the feeling that the treatment done is not always optimal and that they fail in their duties towards PMD.

**Table 1:** Use of restraint by work situation

| ***Restrain*** | ***Work situation*** | | ***p-value*** |
|---|---|---|---|
| | ***Private*** | ***Institution (hospital)*** | |
| **Use of techniques of behaviour management for PMD** | 69% | 80% | 0.05 |
| **Use of hypnosis** | 26.5% | 49.5% | 0.001 |
| **Use of nitrous oxide sedation** | 25% | 45% | 0.004 |
| **Use of manual fixation by a carer** | 55% | 74% | 0.01 |

**Table 2:** Statistical values for logistic regression analysis with the use of nitrous oxide (use versus no use) as dependent variable (n=213)

| **Variable** | **Estimate** | **SE** | ***P*-value** | **OR** | **95% CI** |
|---|---|---|---|---|---|
| **Constant** | **-0.363** | **0.251** | **<0.05** | **0.69** | |
| **Regio** | | | | | |
| **Flanders** | 1 | | | | |
| **The Netherlands** | 2.825 | 0.750 | <0.001 | 16.86 | 3.87-71.43 |
| **Gender** | | | | | |
| **Male** | 1 | | | | |
| **Female** | 1.102 | 0.321 | <0.001 | 3.01 | 1.60-5.65 |

## DISCUSSION

Despite decentralisation of care to rural health services in both countries, it seems obvious that most dentists treating PMD work in an urban environment. However in both countries distances are limited and most places can be reached within one hour of travelling. The results indicate that

the majority of dentists treating PMD are experienced dentists with over 15 years of practice. A possible explanation for this is the actual shortage of newly graduated dentists both in the Netherlands and Belgium (including the idea that treating PMD is financially not always the most rewarding) and the low interest in teaching special care dentistry to the undergraduate student as shown by all dental schools in both countries. The inexperience and possible fear of undergraduates in treating PMD patients should be taken into account. However, the fact that only experienced dentists are working with PMD can be a benefit for the patient. Although it is found that the majority of the dentists included in this study work in a private office, with the decentralisation of the patients this can be seen an advantage.

Most dentists included in the present study treat PMD for at least 4 hours every week which can be seen as an advantage with due to added experience. It is shown that more than 75% of the responders use behaviour management techniques. This seems obvious although it can be stated that those who responded negative to this question probably use some kind of behaviour management technique without knowing the extent of the terminology 'behaviour management technique'. It can be suggested that more attention should be taken by national and local dental organisations in promoting this topic. If the access to general anaesthesia or sedation is easy, it is possible that the effort of using intense behaviour management techniques may be neglected.

The results of this survey make it clear that there are a lot of concerns about the use of restraints. It seems that if any form of restraint is accepted, it is manual fixation. It can be seen as beneficial that a majority of the dentists have a positive attitude towards the collaboration with other care-givers treating patients with mental disability. In the past Houkes and Vromans, both psychotherapists, undertook an experiment investigating the cost-effectiveness of contact desensitisation with persons with mental retardation having a mean age 39.6, all having extremely uncooperative behaviour.[12]

This study encourages the cooperation of dentist and psychotherapists, although the use of the latter it is time consuming to reach the level of better cooperation andit is not known how long the positive results will last. Pruijssers and Meijel (2005) described the problems in the diagnosis and treatment of people with an intellectual disability and anxiety disorder in a review

on communication problems and atypical symptoms.[13] This means that is also difficult for dentists to diagnose the reason of uncooperative behaviour. The authors plead for a multidisciplinary approach. Roemer and Dam (2004) conclude in their dissertation that the practical knowledge of caregivers (direct companions) is an important source of knowledge for communications with these clients and that this knowledge can be transferred successfully.[14] In Belgium and the Netherlands patients can be easily referred to hospitals when there are behaviour problems. The latter may explain the higher number of dentists using restraint in the hospital.

Houtem van et al point out that 68.4% of parents of PMD have difficulties with tooth brushing and in fact they need a form of physical restraint.[15] In our study 66.2% of the dentists found restraint acceptable under certain circumstances. Abma *et al* (2006) developed several quality criteria for 'freedom restriction' in the care for persons with an intellectual disability.[16] In their opinion five criteria are needed 1 skills, 2 communication, 3 targets, 4 care giving as a process, and 5 surrounding conditions. These criteria have to be elaborated in actions and rule of thumbs. An environment of negotiation and debate instead of a climate of control has to be created because the authors believe that an emphasis on personal development and good care is better than underlining the autonomy of the most patients requiring special dental care. Moreover intense collaboration with the general medical profession can be useful as they face identical problems concerning restraint.[17]

If restraint is used, most dentists prefer to combine this with sedation and in collaboration with other caregivers. As such it seems that restraint is of limited use. However, this seems to be contradicted by the use of restraint during daily tooth brushing. Whilst this may seem surprising, it may be explained by the fact that dentists are too focussed on the daily oral health care of the patient. It seems that dentists make a difference between the daily oral health care and the actual medical/dental treatment.

Although most dentist are experienced in treating PMD, they still admit in the questionnaire that emotional problems are involved. The latter motivates the idea of increasing the efforts in training dentists to treat PMD both in undergraduate and postgraduate courses. Moreover, increasing

efforts of dental schools in supporting special care dentistry seems appropriate.

## *CONCLUSION*

Most dentists that are active in treating patients with mental impairments in Belgium and the Netherlands seem to be aware of the ethical dilemma involved in this treatment. From this survey it became clear that the majority of dentists accept limited forms of manual restraint under strict circumstances including the use of sedation and in collaboration with other caregivers. However taking into account the emotional problems of dentist and the strict criteria in using restraint, it could be beneficial to create guidelines to help dentists overcome the ethical dilemma and in improving the treatment strategies for patients with mental disabilities.

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# Expert witnesses in dentistry: A comparison between Italy and Croatia

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***ABSTRACT***
***A dentist is frequently required to translate dental trauma into monetary value, for example after car accidents and/or work-related injuries. When called to act in this capacity a dentist should combine his/her biological and technical knowledge with a quality medico-legal knowledge. Calculation of economic (pecuniary) damages and non-economic (non-pecuniary) damages requires specific training in medico-legal matters and awareness of the inherent pitfalls. Expert Witnesses registered in Court are usually asked to perform this duty. Nevertheless, European countries have differences regarding dental damage evaluations as well as significant differences in the conditions required for registration as an Expert Witness in Court. A dental Expert Witness has precise responsibilities and is subject to civil or criminal proceedings (depending on the judicial system) if found wanting. In forensic/legal dentistry a medico-legal doctor should not work in isolation from a dentist in dental cases nor is it wise for a dentist to work in the courts without having had specific training regarding judicial disciplines relating to dental damages. In this preliminary work the authors investigate the principal differences in the judicial systems regarding the appointment of Expert Witnesses in both Italian and Croatian courts. The next step will expand this investigation through to European countries in order to marshal knowledge towards harmonization, best practice and a common ground for dental evaluation and claim compensations (in accordance with the Council of Europe Resolution 75 – 7 Compensation for physical injury or death).***

***KEYWORDS*****:** Expert Witness, dental damage evaluation, dental law, forensic odontology

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## *INTRODUCTION*

When dental trauma is caused by road traffic accidents and/or occupational injuries, there is frequently a need to translate the claims of the victim into financial figures. The calculation of economic (pecuniary) damages and non-economic (non-pecuniary) damages requires specific training in medico-legal matters as well as an awareness of the inherent pitfalls. In many countries, an Expert Witness (EW) who is registered in courts is usually asked to perform the assessment of a claim for dental damage. In the field of forensic and legal dentistry, an EW can be a dentist with a knowledge and experience in medico-legal matters and in forensic scenarios that is beyond what is expected of a clinical dentist. An EW will use this knowledge to help the Court understand the issues of the case, and thereby reach a just decision regarding the claimed dental damages and/or any professional liability. This knowledge is even more important in penal cases, where crimes such as homicide, sexual violence, domestic violence and child abuse are included. European countries differ in their dental damage evaluations as well as having significant differences in the requirements needed to become a registered EW in Court. In this preliminary work the authors investigate the principal differences in appointing an EW in the judicial systems of Italy and in Croatia with the purpose of widening this investigation to European countries in order to marshal knowledge towards harmonization, best practice and a common ground for dental evaluation and claim compensations (in accordance with the Council of Europe Resolution 75 – 7 Compensation for physical injury or death).[1]

## *DENTAL EXPERTS IN THE CROATIAN JUDICIAL SYSTEM*

In Croatia, the Ministry of Justice requires a specific education process in order to become a permanent EW. In order to be appointed as a permanent EW, the following five conditions must be fulfilled:[2-4]

The claimant must

1. have Croatian citizenship;
2. have the citizenship of a member state of the European Union or another signatory State of the European Economic Area;

3. be medically fit to perform the permanent tasks of an EW;

4. have completed study at an appropriate school, and have worked in the profession as follows:

   - at least 5 years – if completed undergraduate and graduate university studies, or undergraduate university study and specialist graduate professional study, or professional study and specialist graduate professional study, or

   - at least 8 years – if completed appropriate undergraduate university study or professional study, or

   - court testimony, in exceptional cases, could be carried out by a professional with at least 10 years work experience in the profession, after having completed suitable high school education;

5. have a contract of liability insurance in order to operate as a permanent EW.

A person cannot be appointed as a permanent EW if he/she has a barrier to entry in the civil service, or has been pronounced a risk to security as a legal consequence of a conviction, or has been banned from pursuing the profession at the time at the time of requesting an appointment as a permanent EW.[3]

The ability of a candidate to perform the duties of a permanent EW should be determined on the basis of reports on vocational training conducted by a mentor who is a permanent EW in an appropriate discipline and under whose supervision the candidate must complete at least five expert testimonies, findings and opinions.[3]

The procedure for the appointment of a permanent EW starts with submitting an application to the President of the County Court or Commercial Court (depending on the applicant's place of residence). The application should be accompanied by a list of the candidate's published scientific and professional papers. Before submitting the application, the candidate should pass the vocational training program. Vocational training should be carried out according to the program that has been developed by the appropriate professional association – Croatian Chamber of Dental Medicine (CCDM) for doctors of dental

medicine (dentists), and Croatian Medical Chamber (CMC) for medical doctors. Professional training of specialists with a valid license from the CCDM and CMC cannot be longer than six months; and professionals with an academic position of assistant professor, associate professor, or full professor cannot be longer than three months. Specialists in legal medicine with a valid license of CMC are not obliged to complete any training.[2]

The County or Commercial Court refers a request from an applicant to the CCDM to nominate a mentor who will conduct the training of the candidate. The Executive Board of CCDM selects a mentor and informs the Court. A mentor will be a dentist who is appointed as a permanent EW of the County or Commercial Court, who is a member of good standing with the CCDM, who has provided at least five expertise testimonies independently, and who has the same or higher level of educational degree as the candidate.[5]

The training program includes both a theoretical and a practical part. In the theoretical part the vocational training mentor introduces the candidate to the professional dental literature and all legal and regulatory acts relating to the judicial expertise for which the candidate is being trained. The practical part of professional training covers all related data collection, access to the trial, etc. Under the mentor's supervision, the candidate is required to complete at least five expert testimonies and make findings and opinions. After the training has been completed, the mentor compiles a report on the effectiveness and qualifications of the candidate to present to the Executive Committee of the CCDM. Based upon this report, CCDM is obliged, within one month after having received it, to prepare a final written opinion on the effectiveness of the completed vocational training and qualifications of the candidate and to submit it to the President of the appropriate County or Commercial Court. The candidate bears all costs of performing the professional training (HRK8000 +VAT which is approximately €1100). As a compensation for providing professional training, the mentor is entitled to the amount of HRK2500 (approximately €350), which is paid from the abovementioned costs.[5]

Prior to appointment as a permanent EW, the candidate is obliged to submit proof of compulsory liability insurance that meets the demands for damages that could result from his/her work as a permanent EW. The candidate must be covered during the entire period in which he/she is appointed

as a permanent EW. The minimum sum insured is at least HRK200,000. After these requirements have been met, the President of the Court considers the candidate's request and issues the final decision.[2]

A permanent EW is obliged to treat all knowledge acquired during the performance of his or her tasks as confidential. In Croatia, it is prohibited for a permanent EW to have self-promotion on either public or private land, or to advertise services, except for the usual signs at the office of the permanent EW.

On appointment, an EW takes an oath in front of the President of the Court that appointed him/her and is thus able to serve in both civil and penal cases. After the expiry of the term of appointment, a permanent EW may be re-appointed for an additional term of four years. The request for re-appointment should be completed no later than 30 days prior to the expiration of the period for which he/she is assigned.[2]

## *DENTAL EXPERTS IN THE ITALIAN JUDICIAL SYSTEM*

In the Italian judicial system there is no specific educational process required by the Court for appointment as an EW. A dentist who wishes to apply to become a registered EW has to fulfil the following requirements and have

1. Italian citizenship and residence in the Court province;
2. special technical competence in a specific discipline (documents as proof);
3. registration to the professional Medical/Dental Order;
4. a clear criminal record certificate;
5. moral quality (high ethical standards).

Moral quality is not only identified as absence of penal convictions or proceedings, but also the presence of a highly ethical way of life both in private and professional environments. The application is evaluated by a committee consisting of the Court President for the geographical area of the candidate, the Province Prosecutor Attorney and a representative of the professional Order of the candidate. These committees may evaluate applications differently in different location. Some consider a degree in dental medicine/science sufficient to demonstrate the 'special technical competence' requested by law (Art. 61 of the civil code). However in the Court of

Rome the candidate will be eligible only with a total of more than 30 points, calculated from professional experience in complex cases, publications of articles, monographs, books, presentations as a lecturer or a speaker in universities, institutes or specialization courses.[6] Finally, a reasonable period of five years of professional work is also required.

Every Court holds an additional list of expert witnesses for penal cases. In this case, an EW must have five years of enrolment on the civil cases list. The lists of expert witnesses are revised every four years. These are the only lists from which the Judges may choose an EW unless there are none available or there is a possible conflict of interest. In this case the Judge can appoint an EW from other Court province. Only the Court President may authorize the appointment of an expert in a specific field who is not registered on the EW list.

The registered EW is obliged to accept a case given by a Judge, unless there is a conflict of interests or he/she lacks the specific competence/knowledge.

### *ETHICAL CONSIDERATIONS*

An EW has a duty to be unbiased, independent and objective in the evidence and in the analysis provided. The opinions given should relate solely to the facts and to the queries of the case in question. It is for other professionals to apportion blame or deliver criticism. An EW needs to be particularly mindful of the risks involved in acting in cases involving former clients or colleagues with whom the EW has professional or personal relationships.[7] If there is a conflict of interest of this kind, or it appears that there may be one, the EW concerned should refuse to testify.

Finally, once appointed by the Court an EW should verify that he/she has sound knowledge of the subject matter in the dispute and of the legal procedures pertaining to that specific type of legal evaluation (mediation, technical opinion, preliminary technical assessment). The dental EW must be aware that he/she will not be able to formally express any technical evaluation outside his/her area of expertise for example within the various dental specialist disciplines (particularly in oral surgery and orthodontics) or in relation to other medical disciplines. In these circumstances an EW can either refuse to testify due to lack of knowledge/competence or ask the Judge for auxiliary collaborations with other professionals with special expertise.

The ethical requirements of a Croatian EW are clearly defined in Article 30, Statute of the Croatian Association of Court Expert Witnesses, (adopted in 2011, Feb 12th) entitled *The Code of Ethics*.[8] The basic five principles in relation to an expert witness's work are:

1. The principle of behaviour– an EW should carry out his/her duties professionally, honestly, truthfully, and should be able to be fully relied upon;

2. The principle of responsibility – an EW should accept only those activities that he/she considers can be carried out in a flawless manner;

3. The principle of trust – an EW should accept obligations in a manner that serves the public interest, respects public trust and show a commitment to the profession;

4. The principle of authenticity – an EW must perform his/her duties in the most reliable way to make, keep and strengthen public confidence;

5. The principle of professional attention, or professionalism – an EW must comply with professional and ethical standards, must constantly improve his/her knowledge, increase the quality of services and perform to the best of his/her abilities.

In the Italian judicial system rights and duties of an EW are stated under the law and ethics provisions relating to medico-legal consultation that is defined by Article 62 of *Medical Code of Ethics*[9] and summarized as follows:

1. The activity of the medical examiner requires high moral standing and professional awareness regarding the ethical-legal and deontological responsibilities involved and an awareness in avoiding any kind of influence or pressure from external technical resources;

2. The taking on of any case must correspond with an adequate medico-legal and scientific knowledge so that all judicial requirements of the case under examination may be fulfilled (…);

3. In particularly complex cases the medical examiner may seek consultancy from a colleague who has a proven history of experience and competence in the involved

discipline. The medial examiner in charge assumes full professional responsibility for an such consultancy;

4. General practitioners may not exercise medico-legal responsibilities (…) in cases where they have directly assisted or treated, or those in which there exists an employment contract with the health establishment involved in the judicial enquiry;

5. Consultants should interpret the scientific evidence which has been made available by the claimant, with both objectivity and logical scientific reasoning as well as with a prudent evaluation relative to the conduct of the involved subjects;

6. The completion of unlawful medico-legal services (…) constitutes not only as an illegal offence punishable by law, but also as indecorous conduct towards the profession itself.

## *DISCUSSION AND CONCLUSION*

Clinical dentistry and dental law are two different disciplines although both related to dentistry. As an EW, a dentist has precise responsibilities and if found wanting can be subjected to either civil or criminal proceedings depending on judicial system.[10-12]

The role of an EW is not just writing reports, but it involves much else besides. To fulfil their duties adequately it is vital that an EW is involved in the legal and/or forensic field in order to keep up to date with current thinking and developments in this field, and to attend relevant continuous educational training with lawyers, medico-legal doctors and other forensic experts. The Croatian judicial system seems keen to promote an appropriate level of education and experience in the candidate's medico-legal field prior to registration on the EW list. On the other hand, the Italian judicial system seems to rely on the principle that if an applicant is a dental professional it implicitly means that they have enough training for appointment as an EW. However, very few dental schools provide forensic odontology and legal dentistry as a part of the university curriculum. Italy offers several master's programs plus annual and short courses in legal medicine, forensic sciences and forensic odontology. In addition, Italy seems to be the only country in the world with four national associations/societies related to forensic

dentistry.[13-16] Although at first glance this situation could seem to represent a dispersion of initiatives and energies, it could also be seen as a strong will of the Italian forensic dental community to ensure a proper training in forensic dentistry and an improved recognition of odontologists in the various fields of dental damage assessment and forensic investigation.

This initial comparison of two different judicial systems reveals the importance of quality control and quality assurance in the registration of Dental Expert Witnesses in Courts and highlights the need for collaboration with medico-legal doctors. Civil and criminal cases involving any aspect related to dentistry or odontology should ideally require medico-legal doctors to work in collaboration with an experienced dentist who is an EW so that medical doctors are not providing advice outside their area of expertise. For the same reason it would not be wise for a dentist to work as an EW in dental cases, either alone or in support of medico-legal doctors, without having had specific training and expertise in the judicial disciplines relating to dental damages.

In the opinion of the authors, dentists without any specialist training in forensics and law should refrain from any involvement in civil or criminal cases, leaving the provision of expert testimony to those odontologists qualified in forensic sciences and medico-legal doctrines.

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# The Dentist's Responsibilities with respect to a no-fault Motor Accident Compensation Scheme

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***ABSTRACT***
***The State of Victoria, Australia operates a no-fault accident compensation scheme for the treatment and rehabilitation of those injured on the roads. The administration of the scheme by the Transport Accident Commission includes an in-house clinical panel of clinicians in many disciplines including dentistry who liaise with treating practitioners with the aim of optimizing the outcome for the injured claimants while ensuring that the scheme remains viable. The ethical considerations of this are discussed.***

***KEYWORDS*:** Dental injury compensation ethics

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## *INTRODUCTION*

Victoria is the smallest and most densely populated state in mainland Australia. Its population is increasing as is the number of vehicles on the roads. Towns are often scattered outside the main cities and road distances between them are considerable. The prevalence of accidents and subsequent injury caused by fatigue and less than optimal conditions on the roads is therefore high.[1]

The Transport Accident Commission (TAC) is a Victorian Government-owned organisation the role of which is to pay for treatment and benefits for people injured in transport accidents. As a commercial insurer it is funded from payments made by Victorian motorists when they register their vehicles each year. It is also involved in promoting road safety in Victoria and in improving Victoria's trauma system.

The *Transport Accident Act 1986*[2] guides the TAC in the types of benefits it can pay and any conditions that apply. The TAC operates as a "no-fault" scheme. This means that all medical and allied treatment and most benefits will be paid to an injured person regardless of how the accident occurred. It also allows for a combination of no-fault and common law benefits allowing those who can prove fault to pursue further compensation through the courts.

The TAC covers the costs of ambulance, hospital, medical, medications, therapy, dental and nursing services and other treatment that a person needs to treat injuries sustained in a transport accident directly caused by the driving of a car, motorcycle, bus, train or tram. It also pays benefits to people injured in an accident as a driver or passenger in a vehicle, or a pedestrian or cyclist who is hit by a vehicle.

The TAC can also pay for the reasonable cost of other, non-medical services and items a person needs due to injuries from the accident. For example, it will pay travel costs to attend treatment, or for special equipment to help overcome accident injuries. Other types of benefits the TAC can pay include income, impairment and common law benefits.

The types of treatment and benefits the TAC pays for will depend on what can be paid under the legislation, the individual circumstances of the injured person, and what is considered reasonable in relation to the need for and cost of the service. Such decisions are made by the officer assigned

to the case in collaboration with a panel of medical and allied experts whose opinion will guide individual decisions.

## *DENTAL CONSIDERATIONS*

Dental treatment constitutes a small part of the overall costs in the average accident. The need for treatment is usually as a direct result of facial injuries caused by direct impact with parts of a car or falling on to the road in the case of a pedestrian or cyclist. These injuries increase in complexity from simple fractured teeth; to dento-alveolar fractures; Le Forte fractures of the maxillae; mandibular fractures and injury to the temporomandibular joints.

There can also be an indirect association with the accident as is seen in stress induced temporomandibular pain dysfunction syndrome. It is well documented that stress can cause bruxism which in turn will affect the temporomandibular joints[3] and the teeth[4]. A claim that the TAC must bear liability for treatment must be corroborated by the treating psychiatrist or psychologist as well as by the treating dentist.[5]

In an increasing number of cases dental deterioration can be considered to be due to xerostomia occasioned by prolonged use of anticholinergic medication needed to control pain in other parts of the body arising from the accident.[6,7] If liability for the injury has been accepted, then liability for side effects of the drugs prescribed must be accepted also.

People who have suffered a severe acquired head injury requiring lifetime care for their activities of daily living are completely dependent on carers who may or may not be able to adequately manage the dental care of their patient.[8] Difficulties with compliance coupled with a limited insight on the part of the patient will lead to an increase in dental problems that become increasingly difficult to treat as time goes on.[9] Frequently treatment must be delivered under a general anaesthetic. Although the accident did not directly cause the dental problems, it can be considered that if it were not for the accident, the patient would be able to manage their dental needs, as does the rest of the community.

## *THE ROLE OF THE DENTAL PRACTITIONER*

The Victorian Transport Accident Act of 1986 stipulates, "an injured person's dentition can be restored in a manner consistent with the state of pre-accident dental care". All treatment must be related purely to the restoration of those teeth

affected by the accident and no others, even though there may be a need for additional treatment.

The dentist treating the patient's injuries needs to consider which teeth were damaged and whether there are any other related injuries such as disruption of the occlusion due to fractures. The general condition of the patient's mouth should be noted and the extent to which the patient has looked after their teeth in the past. There is no point in providing complex treatment if the patient's dental expectations are low or their capacity to maintain the treatment is impaired. From the compensation point of view, the likelihood of further treatment being needed in the future and the extent of liability of the TAC for this treatment need to be considered.

A treatment plan that takes all of this into consideration is then forwarded to the TAC for consideration. No treatment can be commenced prior to approval being obtained except for emergency treatment aimed at preventing pain and/or imminent deterioration and surgery and allied treatment performed when the patient is an in-patient at a hospital.

## *THE ROLE OF THE TAC DENTAL CONSULTANT*

The TAC employs in-house dental consultants who have access to the circumstances of the accident. They will examine the treatment plan and consider whether a nexus can be made between the accident and the present need for dental treatment, whether the treatment plan addresses the injuries sustained, whether the treatment is consistent with the level of pre-accident dental care, and whether the fees quoted are reasonable

The Dental consultant has no opportunity to examine the patient but may refer for an independent second opinion.

## *ETHICAL CONSIDERATIONS*

The treating practitioner and the dental consultant must decide what is in the best interests of the patient and the TAC in terms of liability.

### *Example 1:*

A fractured maxillary central incisor with pulpal exposure occurred when the patient's head struck the steering wheel of his car. The dentist submitted a treatment plan for that tooth. It can be restored by: a root filling followed either by a bonded composite restoration or post retained crown; extraction and a removable partial denture; or extraction and an osseo-integrated implant retained crown.

The treatment choice should be made taking into consideration the general condition of the patient's mouth and whether the patient is a regular dental attendee who is likely to maintain a complex restoration. The patient must understand the complexities and likelihood of success of any treatment option. This is important if the patient has an acquired brain injury.

The treatment choice should not take in to account demands by the patient for a certain type of treatment or requests for treatment that is in the financial interests of the treating practitioner.

***Example 2*:**

A patient severely injured his back and had pain for some 5 years resulting in the ingestion of large amounts of opiate analgesic medication. During this time he noticed that his teeth were deteriorating to the extent that he sought treatment. The dentist diagnosed a dry mouth (xerostomia) and forwarded a treatment plan aimed at restoring multiple teeth.

Whether or not liability is accepted is made after taking into consideration whether the opiate medication was funded by the TAC for an accident related condition, whether the patient has objective clinical signs of xerostomia and whether the damage is consistent with the caries pattern typical of xerostomia. Wherever possible evidence of the pre-accident dental status is sought by the expert advisor to establish a baseline.

***Example 3:***

A patient suffering from post-traumatic stress disorder informs his general practitioner that he has a sore jaw. He is then referred to a dentist who submits a plan for an occlusal splint to treat temporomandibular pain dysfunction syndrome.

Treatment choice and liability must take into account whether the TAC accepted liability for post-traumatic stress disorder and whether the patient is attending a psychiatrist or psychologist who can corroborate this. From the treatment plan point of view, it is important that the dentist has properly diagnosed the problem and is sufficiently experienced to treat such problems. Often a discussion between the TAC DentalConsultant and the dentist will clarify this.

***Example 4:***

A severely injured patient suffered a closed head injury and damage to the brachial plexus of his right arm that is sufficiently

severe for him to be unable to use it. He cannot manage his activities of daily living without the attendance of carers. He needs dental attention on a continuing basis.

Treatment choice and liability must take into account whether, if it were not for the accident, he would be able to manage his dentition properly, whether the carers are adequately trained to maintain his diet and oral hygiene, and whether preventive strategies been implemented. Treatment for this group of patients is usually delegated to special needs dentists who can manage the challenges of this type of ongoing treatment.

## *PAYMENT FOR DENTAL SERVICES*

To keep costs under control TAC publishes a Schedule of Dental Services. This lists common treatments and represents the maximum fee that TAC will pay for each item. The schedule is reviewed yearly. It is generally below the median fee that is charged in private practice.

The treating dentist must therefore consider whether this fee will cover his/her costs, whether he/she will accept this fee as a kindness to an accident victim or whether he/she will ask the patient to pay a gap fee.

The TAC dental consultant can over-ride the scheduled fees if the treatment is unusually complex or the patient is particularly difficult to treat; for example, an acquired brain injury needing treatment under general anaesthesia. Sometimes the patient has particular requirements that can only be obtained from a particular specialist, or the patient is being treated outside Victoria in other states or territories of Australia and the practitioners there refuse to treat the patient for TAC fees.

## *CONCLUSION*

The TAC dental consultant has an ethical responsibility to ensure that the patient is treated appropriately for the injuries sustained in the accident and that public money is being spent wisely.

The treating dentist has an ethical responsibility to ensure that the injuries listed on the treatment plan relate solely to the accident, the treatment is consistent with the level of pre-accident dental care and that the treatment options are in the patient's best interests and not those of the dentist.

When dental trauma is caused by road traffic accidents and/or occupational injuries, there is frequently a need to translate the claims of the victim into financial figures. The calculation of

economic (pecuniary) damages and non-economic (non-pecuniary) damages requires specific training in medico-legal matters as well as an awareness of the inherent pitfalls. In many countries, an Expert Witness (EW) who is registered in courts is usually asked to perform the assessment of a claim for dental damage. In the field of forensic and legal dentistry, an EW can be a dentist with a knowledge and experience in medico-legal matters and in forensic scenarios that is beyond what is expected of a clinical dentist. An EW will use this knowledge to help the Court understand the issues of the case, and thereby reach a just decision regarding the claimed dental damages and/or any professional liability. This knowledge is even more important in penal cases, where crimes such as homicide, sexual violence, domestic violence and child abuse are included. European countries differ in their dental damage evaluations as well as having significant differences in the requirements needed to become a registered EW in Court. In this preliminary work the authors investigate the principal differences in appointing an EW in the judicial systems of Italy and in Croatia with the purpose of widening this investigation to European countries in order to marshal knowledge towards harmonization, best practice and a common ground for dental evaluation and claim compensations (in accordance with the Council of Europe Resolution 75 – 7 Compensation for physical injury or death).[1]

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# Missing People, Migrants, Identification and Human Rights

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***ABSTRACT***
***The increasing volume and complexities of migratory flow has led to a range of problems such as human rights issues, public health, disease and border control, and also the regulatory processes. As result of war or internal conflicts missing person cases and management have to be regarded as a worldwide issue. On the other hand, even in peace, the issue of a missing person is still relevant. In 2007 the Italian Ministry of Interior nominated an extraordinary commissar in order to analyse and assess the total number of unidentified recovered bodies and verify the extent of the phenomena of missing persons, reported as 24,912 people in Italy (updated 31 December 2011). Of these 15,632 persons are of foreigner nationalities and are still missing. The census of the unidentified bodies revealed a total of 832 cases recovered in Italy since the year 1974. These bodies/human remains received a regular autopsy and were buried as 'corpse without name". In Italy judicial autopsy is performed to establish cause of death and identity, but odontology and dental radiology is rarely employed in identification cases. Nevertheless, odontologists can substantiate the identification through the 'biological profile' providing further information that can narrow the search to a smaller number of missing individuals even when no ante mortem dental data are available. The forensic dental community should put greater emphasis on the role of the forensic odontology as a tool for humanitarian action of unidentified individuals and best practise in human identification.***

***KEYWORDS*****: :** Human identification; missing persons; human rights; forensic odontology; forensic sciences

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## INTRODUCTION

Over recent years hundreds of thousands of migrants and asylum-seekers have been admitted and given refuge in many parts of the world. In 2010 the estimated number of international migrants was 215.8 million (of which 16.3 million were refugees), an increase of 35 million since 2000 and 58 million since 1990.[1] The largest flow of migrants, 73 million, is from developing to developed countries, which include most of Europe, North America, Japan, and Australia and New Zealand. The top 10 destination countries are: United States, Russian Federation, Germany, Saudi Arabia, Canada, United Kingdom, Spain, France, Australia and India.[2] In addition to countries in Europe that have attracted immigrants for some time, such as France, Germany and the United Kingdom, former countries of emigration, such as Italy and Spain, have become preferred destinations for immigrants from other parts of Europe as well as from developing countries.[1] The increasing volume and complexities of migratory flows has, in the broader context of globalisation, led to a range of problems in areas such as human rights, public health, disease and border control, and also to the regulatory processes.[3] International migrants make up 8.7 per cent of Europe's population.[4] The globalization process itself facilitates the movement of people across various countries increasing migration. This poses political challenges for policy makers in the management of migration. Also from a forensic point of view there is the need for a comprehensive approach with regards to personal identification.

This explosion of migration derives from conflicts and civil disturbances in South East Asia, North Africa, The Balkans, Central America, and the political, social and economical consequences of the collapse of certain tyrannical regimes (Iraq, Libya, and the former Soviet Union). The increase in migration has not been confined to regular (legal) immigration, but has also lead to a huge increase in illegal immigration, refugees, asylum seekers and human trafficking.[5] These irregular arrivals interact with national authorities for border security, customs or immigration. There are various terms used for these arrivals such as illegal immigrants, unauthorised migrants, unauthorised non-nationals, and in Italy they are termed ‘foreigners in an irregular position’ or ‘irregular foreigners’.

In their efforts to exercise their legitimate and sovereign rights to control their borders, safeguard national security and ensure public safety, states need to identify and apprehend individuals who are travelling without the requisite documents. In an era of international terrorism, it is entirely understandable that politicians and public alike should place such concerns at the top of their agendas. The occupants of boats intercepted in the Mediterranean have generally been taken for processing to a European port where they have been given the opportunity to submit an asylum claim.[7]

This paper will focus on Italian forensic standards related to some specific aspects of migration. It will discuss the use and value of dental identification for bodies found without documents, who may be reported as missing persons, or who have died as irregular migrants travelling to Italy, and the identification of recovered bodies of unknown nationality. It is not the purpose of this paper to discuss more general issues related to displaced, stateless persons and refugees.

## VICTIMS ON IMMIGRATION BOATS THROUGH THE MEDITERRANEAN SEA

In the Mediterranean region, a growing number of people without approved migration documents are transiting through North Africa and the Balkans before seeking entry by boat to Italy, Spain and the European Union. The issue of interception and rescue at sea has arisen in response to this movement. The identification of deceased immigrants is a difficult task. The main obstacle is the lack of medical and dental data. Only in some major disasters, such as the sinking of the Kater I Radez boat coming from Albania on the 13th of March 1997 with 55 victims, was it possible to rely on interviews with victims' relatives, who were able to give additional information about the missing individual's features, and thus assist in identification.[8]

Immigrants from various countries find their way from North Africa, via the Suez Canal, Turkey and Albania to reach Italy by sea, usually disembarking in three Regions of southern Italy: Puglia, Calabria and Sicily. Puglia represented a major point of entry for people coming from Albania and The Balkans until 2002, because of its geographical position. Since 2003, due to political agreements between the Albanian and Italian governments, the number of migrants reaching the coast of Apulia has dramatically reduced.[6]

There are four hot spots in the Mediterranean Sea for irregular foreigners travelling by boat (Fig. 1): (a) across the Aegean Sea; (b) the Adriatic Sea; (c) through Morocco to Spain and Atlantic Ocean; and (d) the Sicilian Channel.[9] (a) People who emigrate from the Middle East cross the Aegean Sea from Turkey to Greece.[10] Between 2001 and 2005, 391 people died, and 181 went missing. The number of fatalities has fallen in recent years, in 2004 there were 90 deaths, and in 2003 there were 57.[11]

(b) Another hot spot is in the Adriatic Sea, with Albania and Montenegro on one side and Italy on the other. Between 1991 and 2005, 451 died here, 62 of which have never been found. The highest number of shipwrecks was recorded between 1997 and 1999. In the last few years arrivals by this route have been declined and no accidents were recorded in 2003 or in 2005, however in 2004, 31 people died.

(c) From Western Africa and from Maghreb people move through Morocco towards Spain, crossing to Gibraltar or in the direction of the Canary Islands in the Atlantic Ocean. Between 1988 and 2005, 859 people died including 197 who went missing presumed drowned in the waters off Morocco and Spain. The increasing number of incidents in 2005 is cause for concern: 205 people died, 43% more than the 143 deaths recorded in 2004, and the number has been increasing since 2000.[12]

(d) In the Sicilian Channel, along the route from Libya and Tunisia towards Malta, Lampedusa and the coast of Sicily. Since the early 2000s, Libya has been a major departure point for migrants and asylum seekers hoping to reach Europe.[13] Smugglers' routes, both into the country through the desert and out of the country on rickety boats, have flourished. Fortress Europe, an internet blog that tracks deaths of those seeking to reach Europe, reveals the number of victims. Along these routes 6,166 immigrants died or were dispersed in the years between 1994 and 2011. In these years the number of deaths increased dramatically (236 in 2002; 387 in 2003; 203 in 2004; 437 in 2005; 303 in 2006; 556 in 2007; 1274 in 2008; 425 in 2009; 20 in 2010) .[14] The United Nations High Commissioner for Refugees (UNHCR) estimates in 2011 that 1,500 people died in the Mediterranean, making it the deadliest year on record.[15]

The death rates along the routes across the Aegean Sea and the Adriatic Sea are decreasing whilst the rates of death for those leaving Morocco or crossing the

Sicilian Channel are increasing. The Sicilian Channel accounts for twice the number of deaths of the other routes combined.

In addition, since 1988 another 255 people have been found dead along European frontiers travelling as stowaways in trucks or hidden in the containers loaded onto cargo vessels.[16]

## ITALIAN RESPONSE TO UNIDENTIFIED OR MISSING PERSONS

In 2007 the Italian Ministry of the Interior, under pressure from the association of families of missing persons called 'Penelope', appointed a Special Commissioner (commissario straordinario del Governo per le persone scomparse) who was tasked with assessing the total number of unidentified recovered bodies in Italy, and analyzing the global phenomena of missing persons and by suggesting appropriate strategies and coordination among the various stakeholders. The number of missing persons in Italy since 1st January 1974 to 31st December 2011 was 24,912 (updated 31 December 2011).[17] Of these, 15,632 persons are of foreign nationalities and are still missing,[17] although these numbers may include people who have not reported to have returned home, but don't include identified bodies.

The census of unidentified bodies held in all Italian medico legal institutes revealed a total of 832 bodies, representing all unidentified cadavers recovered since 1974.[17] These human remains, recovered in various degenerative states, received a regular autopsy and currently the majority of unidentified bodies are buried in Cemeteries of the Nameless.[18] Of the 832 bodies it appears that only 61 bodies received a dental assessment with a proper odontogram charting[19] and 158 were recovered from the sea.[17]

A further aim of the commissioner was to ensure the coordination of the efforts of all authorities to improve the management of missing person reports and the human identification process. This was achieved in 2010 and called Ri.Sc. ('Ricerca Scomparsi' i.e. missing person search). Software for data comparison and archiving was created and a permanent national database was established, the details of which were decided after consultation with the police, medical examiners and representatives of Penelope.[20] To date, in the author's knowledge, no representative of the forensic odontology community has been

appointed or approached for the purpose of improving or advising on human forensic identification procedures within the Office of the Special Commissioner of the Italian Government for missing persons.

## MISSING PERSON IDENTIFICATION

A missing person may be either alive or dead, but for families the uncertainty will continue until the body is recovered. This condition of uncertainty is considered to be equivalent to 'torture' and endless mourning.[21-26] Whether as result of war or internal conflicts or in peace time, missing person cases and their management is regarded as a global issue. Once the fate of a missing person has been determined to be death, all available means must be undertaken to ensure recovery of the body and any personal effects.

The identification of the deceased is the most problematic issue for forensic experts. All attempts at establishing a positive identification should be made.[27] the primary identifiers are fingerprints, DNA and dental data.[28]

Formal documentation of death requires positive identification and is essential to the collection of life insurance, probate, wrongful death lawsuits, re- marriages, and (in some cases) federal intelligence issues. The lack of a death certificate, in most jurisdictions, results in extensive and protracted legal problems for surviving family members. In most jurisdictions, there are four legally admissible methods used to identify human remains: visual identification; fingerprints; dental identification and DNA evidence.

Many people still believe that all one needs to do is just pick up a wallet or purse and match whatever photographic identification is present to the nearest remains and you instantly have a positive ID.[28] This misconception is clearly demonstrated by Interpol's guidelines on disaster victim identification (DVI). Primary identifiers remain fingerprints, DNA and dental data[29] and Interpol guidelines are principles used most frequently in human identification autopsies, although they should also be applied in DVI. The principle is the comparison of ante mortem with post mortem findings. Missing persons and mass disasters are two different scenarios, although after the DVI experience in the Thai tsunami victims identification in 2004/2005, the use of the Interpol charting has become an international standard, especially when recovered bodies have unknown nationality. Interpol's forms can

be considered a good and ready made starting point to meet best practice and high forensic standards,[30] but missing persons issues go beyond the DVI experience and need a different handling. Software named 'Fast ID' which will hold a wide range of information on missing persons and unidentified individuals is currently under development[31] under the supervision of Interpol and forensic experts. However, in Italy a national database of reported missing persons has become effective, for the purpose of identification, only with the creation of a post mortem data database and the proposal of an unique form for both missing police report and post mortem police and forensic findings. The generic identification of the corpse will allow, even in the absence of ante mortem dental data, for the narrowing down of the investigative frame by defining sex, race, age, dental biography, socio-economic profile and geographical origin. These are, in brief, the elements that will allow the investigating authorities to narrow down the field of subjects to be included in the comparative process, which is also provided by the 'Ri.Sc.' database, and to direct and speed up the investigation through the possible gathering of data, which might not necessarily be dental.[30] Use of the Ri.Sc. ('Ricerca Scomparsi' i.e. missing person search) database (Italian solution), inaugurated in 2010,[20] has already allowed the identification of several cases only by a simple comparison of the data already archived.

Nevertheless, as migration and travel increases, the use of international standards and language allowing appropriate interexchange of missing person data, should not be overlooked.

## FUNCTION OF ODONTOLOGY AND ANTHROPOLOGY IN IDENTIFICATION

The dental identification process relies mainly on the comparison of post mortem and ante mortem dental records which, unfortunately, are rarely created, stored and retained according to international standards.[32] In Italy, a judicial autopsy is performed on deceased victims to establish the cause of death and identity, but odontology and anthropology were rarely employed in identification cases before 2010. Photos of the victim are taken to create a visual profile of certain individual characteristics where these are present. However, the routine employment of a forensic odontologist during autopsies of unidentified foreign individuals is, with a few exceptions, ignored. The main reason

for this is the lack of ante mortem dental records or the difficulties in obtaining such information from the country of origin. Nevertheless, odontologists could interview relatives of the victim and the immigration authorities to try to obtain additional information to substantiate the identification.[33] Skeletonised or decomposed human remains can be clinically and radiographically examined for dental features and dental information.[34] An odontologist who does not include a complete radiographic examination in the post mortem examination of a body in need of identification but limits the examination to a mere odontogram, could be considered negligent.[30]

Forensic anthropologists could also make an important contribution to the identification process especially in cases of badly preserved or heavily fragmented human skeletal remains[35] or those altered by sea fauna, and also provide information on the dynamic of the death, all of which might contribute to an eventual identification. By combining the skills of an odontologist and anthropologist basic biological information known as a 'biological profile' of the individual can be arrived at, even in the absence of ante mortem dental records thus providing further information which can narrow the search to a smaller number of missing individuals and contribute in cases of homicide. This profile is reached by recording such data as age, ancestry, sex, alimentary habits, and dental anthropological traits. Systemic pathologies and other additional personal information of the individual such the geographical origin is also considered. The latter can be obtained through the analysis of minerals in the enamel[36] or dental material specimen.[37,38] This information can also be used to observe and evaluate common features or inconsistencies between ante mortem and post mortem records[39] thus narrowing the search for a possible identification by excluding incompatible individuals. A computer-assisted identification program could be employed to store information gained from the unidentified persons to create a national dental database holding dental and radiological data[40] and contribute to the process of identification when further information on the missing person may become available through human rights international organization, embassies or Interpol.

It is important to note that not all cadavers recovered from the sea or stranded on Italian coasts belong to missing migrants.

They may be persons visiting or in transit through Italy or even washed up by the sea from other countries with a proximate coastline.[41] In this regard mandibular morphology and craniometrics can represent powerful forensic tools to assist with race classification and the geographic origin of human remains.[42,43]

## DISCUSSION

Lack of (or incomplete) human identification procedures infringe upon a range of human rights embodied in the Universal Declaration of Human Rights and set out in the International Covenant on Civil and Political Rights (arts. 2, 6 and 7)[44,45] as well as regional instruments, including the European Convention on Human Rights. Unidentified bodies in Italy, as in other countries, may involve violations of various civil and cultural rights of the families waiting for news of their missing relatives. There are 15,071 foreigners reported as missing to the Italian Police (including 8,153 minors), 9,392 Italians missing (including 1,651 minors) and 832 unidentified bodies of unknown nationality.[17] To achieve and maximize effectiveness of the identification process, the implementation of an international database, not only for DNA and fingerprinting, but also for dental (odontogram and periapical x-ray images) data is needed. The software named 'Fast ID', currently under development[31] under the supervision of Interpol, will hold a wide range of information on missing persons and unidentified individuals in an international setting.

This suggests the importance of promoting international co-operation between organisations involved in human identification, and quality control among forensic experts and police agencies. It should be clear to all those involved in the process of human identification that an incomplete post mortem assessment - which may lead to a delayed identification - represents a violation of human rights and international humanitarian law because "once the fate of a missing person has been determined to be death, all available means must be undertaken to ensure recovery of the body and any personal effect".[21] It is imperative that human remains be properly handled in order to protect data for potential identification as there is a forensic component in every missing person file.

In 2003 The International Committee of the Red Cross founded a forensic department with the aim of offering guidelines and training for experts[46.]

Therefore, forensic science also becomes a tool for humanitarian action, to help ensure that unidentified bodies receive appropriate burial rites or to avoid them being given inappropriate ones. The sorrow and psychological suffering of the next of kin increases over time and also with any delay in arriving at a positive identification.[21-26] The families of missing persons have the right to know the fate of their loved ones and a autopsy on recovered unidentified bodies should be performed including both DNA sampling and a complete dental assessment. However, a complete dental autopsy appears to be performed only in a limited number of cases, much less than DNA sampling. This may later require an exhumation in order to complete the post mortem data recording with anthropological and dental assessments. This may increase the sorrow for the family of an already processed cadaver and incur further costs such as the forensic assessment and new burial. From the author's experience dental autopsies must be performed by an experienced forensic odontologist and should consider X-ray imaging of the teeth.[46,47] With the exception of 61 cases out of the 832 unidentified bodies, it can be concluded that prior to the Ri.Sc. System and associated forms, there was little attention given to identification by dental means, the emphasis being given to DNA testing and excluded both the relevant generic biological profile obtainable by a wider dental biography[48,49] and all possible retrievable data from a complete anthropological assessment.[35,43]

Forensic human identification must be performed through a multi disciplinary approach using all possible identification methods available and applying international standards and codes such as those recommended by Interpol. This issue will have to be confronted by the Italian Ministry of the Interior when it considers all possible solutions towards an effective human identification process and promotes an interaction with other countries where human identification is scientifically determined applying primary methods. As migration and travel increases, the use of international standards, codes and language allowing appropriate exchange of missing person data should not be overlooked.

With regard to identification procedures both for disasters and missing persons, the involvement of forensic experts and DVI specialists should not be limited to the post mortem assessment and recording of data, but their technical consultation should continue in the data reconciliation

procedures and in the ante mortem dental data search along with police technical staff. In the author's opinion, a medico-legal autopsy, which is usually requested to determine the cause of death, should not be confused with identification autopsy, which ends with the reconciliation of the post mortem findings with the ante mortem data retrieved by police investigators. To this end the work of Disaster Victim Identification teams could prove to be of excellent educational value providing teaching opportunities[51] and less experienced colleagues should be encouraged to participate as international observers.

## CONCLUSIONS

The proper documentation and identification of living and deceased migrants is important to safeguard national security and ensure public safety against terrorism. It is also a fundamental principle of human rights, human dignity and international humanitarian law.

The need to strengthen identification procedures as a protective measure has been increasingly globally recognized and forensic sciences can also be considered a tool for humanitarian action. Odontological registration and dental radiology are fundamental resources for age estimation and identification of living and deceased victims even when ante mortem dental data is not available. Greater emphasis needs to be placed on the role of the forensic odontologists and on their collaboration during autopsies of unidentified individuals, regardless of the circumstances, in the data reconciliation procedures and in the ante mortem dental data search along with police technical staff.

The failure to employ odontologists routinely in investigations of missing persons may result in reduction of additional findings that, together with other circumstantial evidence, could lead to a delay in a positive identification. Where a deceased's nationality is unknown, personal identification should also apply DVI procedures, Interpol forms and at least a primary combined with a secondary identifier.

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# Role of Dentists in Indonesian Disaster Victim Identification Operations: Religious & Cultural Aspects

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***ABSTRACT***
***Indonesia is the largest archipelago in the world, consisting of five main islands and 17,500 smaller islands, spread across three seismic belts that run throughout the country. Indonesia is extremely prone to disasters, both natural and manmade. With a total population of nearly 250 million people, Indonesia's Muslim community exceeds 180 million – the largest Muslim population in the world. On December 26, 2004 an earthquake and tsunami hit Aceh resulting in an estimated 165,00 deaths (mostly Muslims) and half a million people displaced. The members of the Disaster Victim Identification (DVI) operations faced unique obstacles. Speed was required because families wished to bury their relatives within 24 hours (before the next prayer time) and the hot tropical climate caused rapid decomposition of bodies. At the same time, survivors needed medical help; there was total destruction of facilities; minimal equipment; ante mortem data destroyed by the flood; and no electricity, transportation, water or food. DVI was of necessity basic so that the team of 33 could process tens of thousands of victims. Lessons were learnt including the need to involve religions leaders immediately; revise the DVI protocols that were designed for manmade (and smaller) mass disasters; provision of individual cameras, laptops and portable x-ray devices; and attention to more efficient use of mass graves.***

***KEYWORDS*****:** Indonesia; DVI; religion; cultural; mass disaster

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## BACKGROUND

Indonesiais the largest archipelago in the world with approximately 17,500 islands. It consists of five main islands and many smaller ones, andeach has its own character, art, culture, allure, and scenic beauty. The islands of Indonesia are a result of the collision of three major plates in which the Australian-Indian plate in the South, the Eurasia plate in Northwest and the Pacific plate in Northeast converge in the region of Southeast Asia (Fig. 1). The interactive motion of these three major plates and the effects of the smaller Philippine plate help explain why Indonesia is very prone to natural disasters like earthquakes, volcanic eruptions, tsunamis, typhoon, high tides, landslides triggered by monsoon rains, hot mud eruptions, rainy season's floods, and dry season's drought.[1,2]

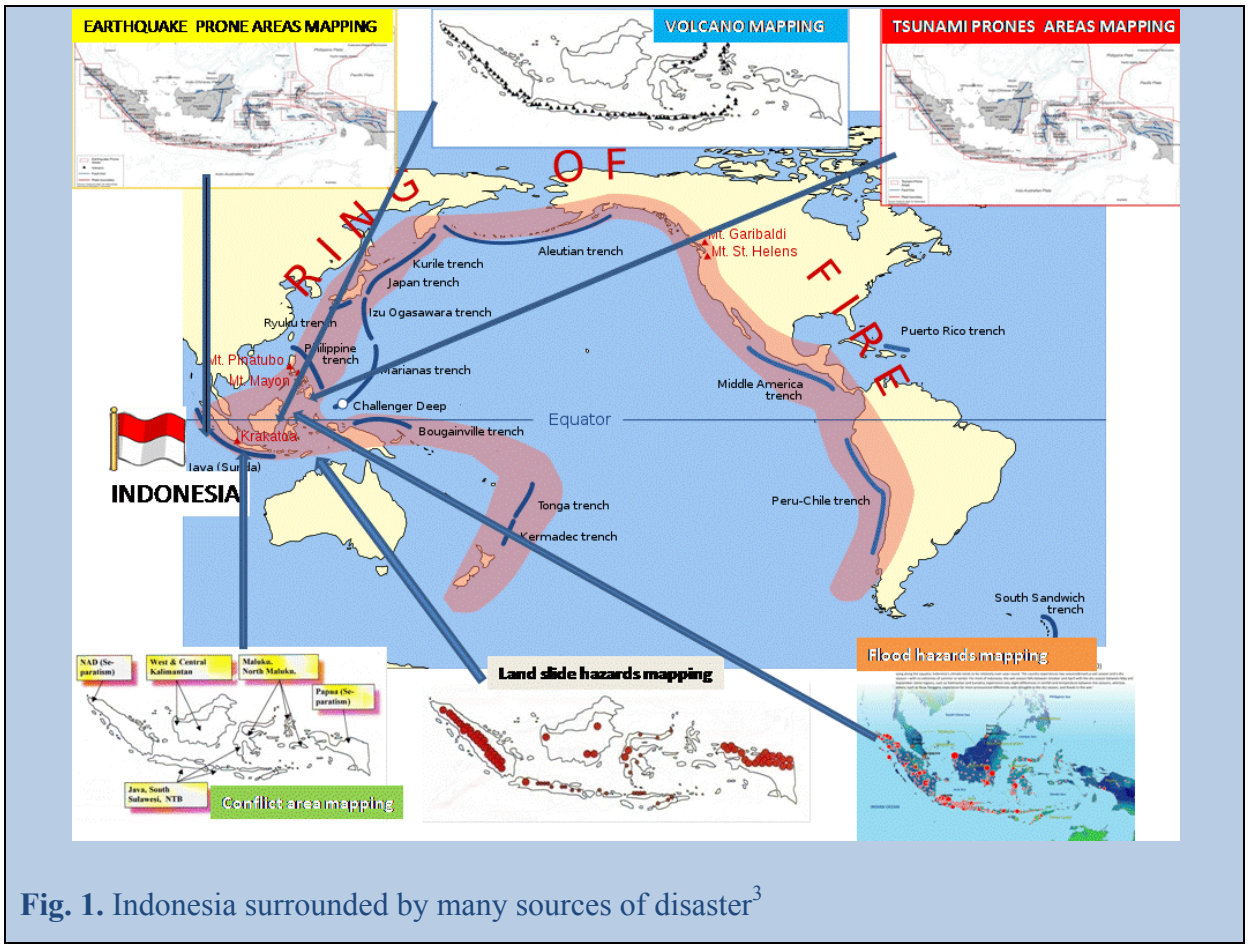


**Fig. 1.** Indonesia surrounded by many sources of disaster[3]

The National Disaster Management Agency Indonesia (Badan Penanggulangan Bencana Indonesia) reported that during the period 2002 to 2007 there were 2,253 cases of major disasters in Indonesia.[4]Most of these are natural disasters but too many are manmade. The air, sea, and land transportation sectors in Indonesia are highly prone to accidents involving majorloss of life in large-scale disasters. Since the beginning of the 2007 there had been 6 train accidents, 3 passenger ship accidents with a high number of casualties, 3 aviation accidents, one aircraft with 102 passengers disappeared in West Sulawesi Sea, one aircraft crash-landed at Juanda Airport Surabaya, and in March 7, 2007 a Garuda airplane with 133 passengers and 7 crews failed to make a proper landing and burst into flames at Jogja Airport with 21 fatalities (16 Indonesian, 5 Australian), 119 survivors, a number of whom were injured. Five terrorist bomb attacks happened in Indonesia since 2002. These manmade disaster statistics provide clear impression that similar or worse disasters are inevitable in the future.[1,5]

How well prepared are we to deal withthe worst-case scenarios? The government and all organizations involved have participated in discussions to answer this question, and as a result have established a National Standard of Operating Procedure to regulate who will take the responsibility with minimal bureaucracy in the eventuality of a disaster happening.[6]

This paper covers the December 2004 tsunami in Aceh focusing on the religious and cultural concerns that accompanied victim identification, reflects on difficulties experienced and improvements that can be recommended for future events of this type.

## ACEH TSUNAMI DVI- THE INITIAL RESPONSE

Indonesia has the fourth largest population in the world of nearly 250 million people (2010 data) and more than 86 percent (2000 census) adhereto Islam.[7]Aceh is a special territory (DaerahIstimewa) of Indonesia, located on the northern tip of the island of Sumatra. Its full name is Daerah Istimewa Aceh (1959–2001),Nanggroë Aceh Darussalam (2001–2009) and Aceh (2009–present) The Aceh province has the highest proportion of Muslims in Indonesia with regional levels of Sharia law. Of the nearly 4.5 million people in Aceh, 98% identifyasMuslims.[7]

On Sunday December 26, 2004 at 7.50ama large earthquake of 8.9 on the Richter scale occurred off the coast of Indonesia's Aceh province. It was followed 30 minutes later

by a tsunami that razed entire cities in Aceh west coast.[3]Within a few minutes all economic and government activities in Aceh province totally ceased. More that 165,000 people were dead.[8]

The Indonesian Disaster Victim Identification (DVI) team consisted of 33 doctors and dentists who were attached to the police force. They were dispatched to Aceh using the special aircraft of the Chief of Indonesia National Police. Theyarrivedat the disaster area24 hours after the tsunami andimmediately they startedorganizing their tasks. Indonesia already had guidelines recommended by the Identification Board of DVI Indonesia. To be identified a body should have one primary identifier (fingerprints, dental records, DNA profie) or two secondary identifiers (personal effects) and ante morem/ post moretem comparison.[1.9] These were to be used for the management of incidents with a large number of victims, however they had beendeveloped from experiences gained following transport accidents and terrorists incidents. Large natural disasters like tsunami that cause many more deaths and local destruction, need more specific guidelines than those used for transport or terrorist activities.[8]

As in all disasters, it is important for survivors that the bodies of the dead are handled with respect and that the dead are identified carefully so that survivors know what has happened to their missing relatives. However, at the same time people are afraid of disease and epidemics resulting from many unburied bodies.[8] Fear of disease is particularly strong in hot tropical climates where the decomposition of bodies can be rapid. To avoid this risk to the living, the hasty burial of the dead can occur either with or without authority and even before identification has been completed. In addition, the rapid identification of victims is requested for religions reasons. In Aceh the families of the victims insisted on burying the bodies of their relatives as soonas possibleand within a maximum of 24 hoursfor religious reason.[8]Bothsituations caused difficulties with the DVI operation and will be discussed later.

All 33 members of the Indonesian Police DVI teamstrived to identify the victims according to the DVI Interpol Guidelines.[13]However, the situation and conditionsin the field did not support a thorough identification process. There were a lot obstacles during DVI in Aceh such as limited transport(most cars were totally destroyed by the tsunami) no

available gasoline for those cars left or brought in, all field forensic equipment was either severely limited or not available (refrigeration for preserving human remains, body protection, gloves), body bags were non-existent (all victims were wrapped in their own clothing usually a sarong which is a traditional Muslim cloth) (Fig. 2), and no clean water or food (the team ate instant noodles). In the initial few days, visual identification was undertaken before the decomposition of the bodies.[8] Primer identifier (finger prints, teeth and DNA) could not be used because the water from the flooding destroyed all of the records from the police office and hospitals.

**Fig 2.** The victims in front of Military Hospital (Kesdam) Banda Aceh

## LEGAL, RELIGIOUS AND CULTURAL BACKGROUND

Legally, a person in Indonesia is presumed to be alive until a death certificate is issued and burial cannot occur without it. To obtain a death certificate, a doctor must determine the cause of death and the identity of the person must be confirmed.

Complications arise when the death is not from pre-existing sickness or when the person cannot be immediately identified. In both instances, the law sets out regulations to be followed. An autopsy may be needed, specific victim identification processes including fingerprints, dental records and DNA analysis are undertaken, and a coroner may required to give permission for burial. When identification cannot be made, the body will be kept in a morgue until released for burial by the coroner. In disasters where many bodies cannot be identified or stored appropriately, a temporary burial process can be performed following set procedures laid out by Interpol Guidelines. The authority to perform temporary burial in Indonesia is provided by DVI Commander. Missing people are presumed alive until they have been missing for one year.

On Saturday December 31, 2004 (five days after the tsunami) the Indonesian Council of Muslim Leaders (MajelisUlama Indonesia) issued a decree concerning funeral ceremonies and burial of victims in Aceh fearing a health risk to the volunteers in the recovery response. (The hot and humid conditions in Aceh were causing decomposition of the bodies within two days). The decree modified some of the religious requirements for burial. The decree placed the responsibility on the government for rapid burial but included the following to facilitate the burial process in the face of enormous numbers of bodies.[10,11]

- The dead are to be simply buried in mass graves or where they are found if mass graves are not available.
- Later a body can be transferred if the family wishes.
- The bodies do not need to be cleansed, just placed in body bags in their own clothing rather than shrouds.
- No need to separate male and female victims.
- Bodies of Muslims and non-Muslims can be buried in the same grave.
- The faces of the victims will be oriented toward Ka'bah Mecca in the West.
- Islamic burial rites (shalatjenazah) should be done before burial but, if necessary, the funeral prayer could be done after a burial.

- All of the victims are declared SyahidAqirat Death (death caused by disaster). The Islamic religious law requires that the burial of death body must take place no longer than 24 hours after the time of death.

The civil conflict in Aceh provided another cultural impact in the aftermath of the tsunami. For thirty years there had been conflict between a rebel movement striving for independence and the Indonesian government. These rebels used guerilla tactics against the police and military and retreated into the hills in the inland. The Aceh province had been under military law with army outposts creating a cordon. In the early period following the tsunami, civilians were heading inland to the rebel territory and victims merged with sympathisers. The army faced the conflicting functions of helping in recovery following the tunami and maintaining control in a conflict situation whilst being uncertain of who was a rebel and who was a victim. The magnitude of the tragedy forced both sides of the conflict a joint humanitarian effort and the province was opened to international organisations and the media. The compromise that started with the tsunami resulted in a formal memorandum of understanding between the Indonesian government and the rebels in August 2005.[3]This conflict had no impact on the DVI team.

## FIELD MANAGEMENT OF DVI TEAM IN ACEH.

Each responder team worked hard immediately after the tsunami hit, and tried their best to preserve the victims. Following its arrival, the DVI team organized the initial body identification tasks in spite of the damaged local conditions and badly destroyed facilities. However, due to the shortage of medical personnel in the first few days, the tasks of the DVI team were often diverted to treating the injured survivors and at times they were needed to help people in the evacuation process. The arrival of huge numbers of international responders (including approximately 300 medical experts) helped speed up rescue and relief missions. The multinational force and humanitarian aid from abroad brought sophisticated medical equipment and experienced personnel and were able provide proper medical treatment to the large number of injured survivors that eventually saved their lives. The DVI team could be released to return to identification of victims. In Aceh DVI was done by the IndonesianDVI team because most of the

DVI experts from all over the world were concentrated in Thailand. Most of the international experts who arrived in Aceh were medical specialists who helped the living victims.

DVI team tried their best to help victims' families by adopting the following simple and quick system:

- Taking pictures of the dead in their clothes and taking a close up photograph with a digital camera.
- Labeling and recording the region where the victim was found e.g. :
- *Rumah Sakit Bhayangkara Lamteumen/A 1/001/11 Jan/2005*
- *Brimob Kampong Keuramat/B2/13 Jan/2005*
- Describing and recording in detail all victim's personal belongings such as clothing, jewelry, ID card, mobile phones and special marks.
- The victim was placed in a body bag with the clothing in which they were found.
- An ulama/ustadz (Moslem religious leader) was invited and encouraged to lead the burial rites

From these records, family or associates of the dead made identifications but in some cases from the ID information on the body (ID cards or mobile telephone SIM cards).

The statistics are sobering. In the first three weeks, approximately 87,000 bodies were buried. The recovery phase lasted until March 2005 and involved 42 different organizations.[8] Overall more than 130,000 people were confirmed dead, 37,000 missing, and more than half a million were displaced.[2,7]

## DIFFICULTIES REVIEWED AND RECOMMENDATIONS SUGGESTED

### Disaster management

The designation of the institution in overall chargeand the designation of hierarchy of operations were not clear. Nor were responsibilities clearly assigned or well organized especially when dealing with such a huge number of dead bodies and injured victims.The medical teamwork as a rescue team, while the DVI team collecting the dead bodies. The situation was in total chaos for almost a week, while the number of victims increased by the minute. The chaotic situation was compounded by the destruction of all local hospital facilities, and the loss of many medical personnel,

experts and nurses who may have been swept by the tidal waves. This disaster was catastrophic and policies developed from disasters with fewer victims could not cope with the sheer magnitude in this instance. The Aceh tsunami will act as a lesson for the improvement of disaster management preparation, prediction and rescue protocols.

## Identification procedures

Teeth comprise one of the primary indicators under Interpol protocol for DVI. Obtaining any dental ante mortem data was impossible since all patients' records were destroyed in the flood however comprehensive dental records were not expected given that only a small portion of the Indonesians populationhave a regular dentist visits. In addition, most Indonesian dentists do not use a standardized dental chart that could be useful for the positive identification of disaster victims (e.g. the dental classification and symbols used for a correct registration of the various dental treatments). Dental charts were not available for positive identification of most of the Tsunami victims. The dental records from hospitals, dental private practices and from the Medical Society Center (PusatKesehatanMasyarakat) were lost in the flood.

Using the experience gained in Aceh as an impetus, the Indonesian Dental Association should stress the importance of comprehensive ante mortem dental records following the National Standard of DentalRecord (FDI system) released by the Ministry of Health of Indonesia.[12] The value of dental records should be promoted to all dentists in Indonesia, to all 26 University Dentistry Faculties, to all dentistry students, and to the general public.

Dentists should also be familiar with the contents of "Technical Guidelines for Health Crisis Responses on Disaster" book so that they are able to assist in the event of a disaster, such as the F form and how to fill the odontogram.[6]

## Religion and DVI

Because Muslimsmake up the overwhelmingmajority of Aceh population, the DVI team was confronted with problemsin dealing with customary religious burial rites. Islamic religious law requires that the burial must take place no later than 24 hours after the time of death. The families wished to conduct the final burial of the victims as soon as possible, but the process of identification needed some extra time. The DVI team faced an unrealistic time frame in which to properly

identify a large number of bodies. The difficulty of dealing with religious beliefs in DVI also happened with the Balinese Hindus during the 1st and 2nd Bali bombing, when the families refused to give their blood sample for DNA analysis, because they had completed the Hindu burial rites with the coffin and brought the remains to the sea (dilarung ke laut). In their opinion the burial was finished.[13]

Most Indonesian people have the culture of acceptance (trusting God's will) and believe they are obeying God's will according to Muslim teaching so long as their action has the ustadz's (religious leader) sanction. The decree issue by the Indonesian Council of Muslim Leaders outlined above went some way towards assisting the DVI process but did not occur until five days after the tsunami.[10,11]In future disasters, Religious leader (ustadz, ulama) should get involved at the earliest possible stage of DVI operations.

**Climate**

It is essential that responder teams agree on a standardised numbering system for bodies beforehand. This is the foundation of keeping and locating all records for an individual and early agreement will speed the process of DVI. Due to the tropical heat, the condition of the bodies deteriorated fast however rapid progress was hindered by the large number of bodies to be processed and the destruction of facilities that would otherwise be used. The use of cameras to record identification details has been outlined. In future disasters time can be saved and some efficiencies achieved if all responder teams carry their own digital camera, video camera, and laptop. In addition, dentists responding to disasters should bring hand-held X-ray apparatus to take onsite dental X-rays linked to the numbering on the body tag/label.

In a mass disaster of the dimensions of Aceh, local refrigeration is destroyed or not working due to power failures. Any transportable refrigeration takes time to arrive and even then could not effectively store the required number of bodies. Mass graveyards must be used. As already mentioned, the religious requirements of burial in a mass grave can be overcome by working with religious leaders. Whilst acknowledging the difference in scale, the organization of the mass graveyards in Aceh of which there were fourteen, left room for improvement. Later exhumation of individual bodies from these graves would not be possible (Fig. 3)

When the Mandala Air aircraft crashed in Medan on September 6, 2005, a mass grave was used and marking posts were installed in the graveyard showing information matching the numbers shown on the body tags. This procedure waseffective and is recommended for future mass disasters.

**Fig.3.** Lambaro Mass graveyard Banda Aceh

## CONCLUSION

In December 2005, the Aceh tsunami claimed more than 165,000 lives including 37,000 people missing. Local response teams and DVI experts were confronted by a catastrophe. They had to deal with this speedily because of the climate and at the same time respond sensitively to religious and cultural constraints.

We believe that many catastrophic disasters can be reduced in impact (i.e. early warning Tsunami systems, improved safety standards enforced in transportation sectors, heightened terrorist threats awareness). Nonetheless, disasters will

continue to occur and we hope that disaster management in Indonesia will continue to use past experiences to learn and improve in preparation for future events.

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# Professionalism: Challenges for Dentistry in the Future

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***ABSTRACT***
***While countries varies significantly in the financing of dental care, they are much more alike in the delivery of dentistry. Dental care is principally provided in dental offices and clinics that are independent business entities whose business leaders are most often the dentists themselves. However society expects from dentists a level of professionalism (i.e. habitually acting ethically, both in terms of competence and conduct) in contrast to the methods and motivations of the marketplace. This is why the single most important challenge of dental professional ethics continues to be giving proper priority to patients' well being and building ethically correct decision-making relationships with patients while, at the same time, trying to maintain a successful business operation.***
***If we look into dentistry's future, the centrality of this aspect of professional ethics is not likely to change, although the ways in which dentists might violate this trust will probably multiple as funding mechanisms become increasingly complex. It is important that dentists reflect with fresh eyes on their ethical commitments. One challenge is the increased availability of oral health information to the public and the fact that so many people are uncritical of the accuracy of information in the media and on the web. A second is the increase in the amount of health care advertising in many societies. A third is the growth of aesthetic dentistry that differs from standard oral health care in important and ethically significant ways. The fourth is insurance that frequently complicates the explanation of a patient's treatment alternatives and often brings a third party into the treatment decision relationship. The ethical challenges of each of these factors will be considered and ultimately tying it to the central theme of dental professionalism.***

***KEYWORDS*****: :** Ethics, Professionalism, Aesthetic Dentistry, Dental Insurance, Dental Advertising, Digital Access to Oral Health Information, Profession, Dentistry

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## INTRODUCTION

Almost every decision a dentist –or any professional – makes has an ethical aspect, but in the daily practice of a profession, the ethical aspects are mostly matters of habit. Sometimes new circumstances or unusually complex circumstances must be dealt with and our habitual ways of thinking and acting are not appropriate. In these situations, a professional needs an articulate understanding of the relevant ethics. In this presentation the professional challenges discussed are all connected to one important fact about dentistry. Namely, most dental care is provided through privately owned and managed businesses – solo practices, group practices, and larger clinics. For this reason, many of the professional ethical challenges that dentists face concern giving priority to professional values and commitments over marketplace values and motivations. This is why, although there are exceptions, a common characteristic of most unprofessional activities in dentistry is that, in one form or another, marketplace success was chosen ahead of giving proper priority to the patient's well-being, practicing within one's competence, and maintaining a proper relationship with the patient. How does one maintain one's professionalism and the professionalism of one's office in the face of maintaining a financially viable business?

The ethical challenges to dentistry to be discussed here are directly related to the differences between dentistry as a profession and the workings of the marketplace. These differences will be described in some detail followed by the four specific aspects of dental practice that challenge dentistry's ability to differentiate itself as a profession from what occurs in the marketplace.

## PROFESSIONS AND THEIR ETHICS

What is a profession and how does professional ethics fit into the life of a profession and relate to the society in which it functions?[1]

### Professional expertise

The first characteristic of a profession is that it is group of persons who have mastered a particular body of knowledge and a particular set of skills for applying that knowledge to concrete cases. I will refer to such combinations of knowledge and application-skills as expertise. Whilst almost every occupation is characterized by some combination of knowledge and application-skills, what distinguishes

professional expertise first of all is that the expertise of a profession enables its members to bring about, with a high degree of dependability, a certain set of benefits that the relevant society values highly.

In addition, the expertise of a profession consists of knowledge and skills of sufficient complexity and subtlety that only persons who have been specifically educated are depended upon by the society to bring about these highly valued benefits. These are the only persons whom society relies upon to do four things: (a) to judge correctly when expert intervention is needed and likely outcomes of possible alternative interventions (including the option doing nothing); (b) to judge which of the available courses of action is the best for the given situation; (c) to carry out the expert intervention (or dependably supervise others to do so); and (d) to judge in a timely fashion whether a particular intervention has achieved its intended goal or further expert intervention is needed. Moreover, only those who are already expert will be able to train others and determine when someone has mastered the profession's expertise. Thus, the possession of such expertise will necessarily be exclusive to a relatively small group within society.

## Professional authority

A second characteristic of a profession is that the society confers professional authority on the group, authorizing them to make socially determining judgments on all matters within that group's expertise. We know that the mere possession of expertise about something that a society values highly gives the expert group some measure of social power, but when a society hands over the authority to have the last word on important matters to a particular group, that power becomes even greater. Most societies establish regulatory systems to control the use of this social power, but the effect of these systems is necessarily limited because only those who are experts themselves can assess the details of the expert groups' activities in a dependable and timely way.

## Professional ethics

How does ethics fit into this picture? Professions have been created by the society because the society wants certain benefits. Yet many professional groups portray their ethical standards as if these were the creation solely of the professional group itself, with the larger society playing the role of beneficiary of the profession's generosity in choosing to serve the society well. This is a false picture. No rational

society would invest extensive social power in an unavoidably exclusive group without some kind of assurances that this power will be used for the benefit of the people rather than to exploit them.

Instead, societies have created a companion social system called professional ethics, and have tied this closely to the conferral of professional authority. Thus a profession receives its authority over matters within its expertise – along with the social power and social status and other social rewards that accompany that authority – on condition that both the profession collectively and its members individually are committed to using this social power with ethical standards acceptable to society. It may be true that professionals are not as revered today as they once were in many of our societies. For there has been a significant increase in the general level of education and a shift from primarily manual labor to service economies, so a professional's service is not viewed as being as distinctive a calling as it once was. But even so, almost everyone who uses professional services presumes that the professional will practice in accordance with his or her profession's ethical standards. In other words, the social institution called professional ethics has worked very effectively to prevent exploitation of our societies by those who have been given exclusive authority over things our societies value highly.

It should be stressed that professional ethics, like a profession itself, needs to be seen as a collaborative social creation by the society and the expert group. Therefore the content of the dental profession's ethics is the current content of an on-going dialogue between a given society and the profession about how dentists ought to conduct themselves. The codes of ethics promulgated by professional societies are often useful summaries of a profession's ethics, and legal structures such as licensing laws have an important role to play. But the full content of the dental profession's ethics can only be learned by carefully studying the current content of the on-going dialogue between the larger society and the dental profession, especially as it is lived out in the daily interactions of conscientious dentists and thoughtful patients.

## Professionalism

Professionalism, as the term is used here, refers to one's acting habitually as a member of a profession ought to act and has two main components. One is professional competence: making one's

judgments in accord with the profession's collective expertise and always practicing within the limits of one's mastery of it. The other is professional ethics: giving proper priority to the well-being of the patient over other considerations, maximizing as much as possible the distinctive values that dental expertise can provide people, and maintaining a relationship with the patient that is as ideal as possible. The word "habitual" is used because in the rush of daily practice, doing what a professional ought to do must be a matter of habit if anything useful is to get done. The conscientious professional will sometimes need to stop and carefully think about how to respond to a particular situation, but for the most part both the competence and the ethics of the conscientious professional will be matters of habit.

## MARKETPLACE JUDGMENTS AND THE ETHICS OF THE MARKETPLACE

Marketplace judgments (that a product will meet a consumer's needs, or fulfill a consumer's desires, and that one product may do this better than the next) are the judgments of the individual consumer. Unlike the expert judgment of the professional, they have no social authority. A person may gather data about products or consumers or sellers, and one may choose to be guided by the resultbut in the functioning of the marketplace as a social system, this is simply an option. There is no expertise as such in the marketplace because each consumer's judgment and each seller's judgment is socially independent.

In addition, the ethics of the marketplace is very different from professional ethics. Consistent with marketplace judgments, the underlying ethics of the marketplace is to not interfere with others acting on their own judgment unless they are interfering with someone else acting on individual judgment. The ethics of the marketplace requires persons who voluntarily make agreements to carry them out and it prohibits coercion precisely because these actions interfere with others' ability to act on their own judgments. Similarly, the ethics of the marketplace prohibits outright lies between seller and consumer. However, even the briefest look at contemporary advertising makes it clear that misleading advertising messages, true information that is provided too quickly or in print that is too small to be legible, are examples of practices that are not considered violations of this standard of truth. In other words, if dentists were to use marketplace ethics there would be

room for adjusting how to state a diagnosis or treatment recommendation in order to lead the patient to choose a more lucrative treatment.

The most important difference between the ethics of the marketplace and professional dental ethics, however, is that a marketplace relationship is a relationship in which each party aims to maximize the outcome for themselves.[2i]Should a dentist adopt marketplace ethics, the goal would be to maximize outcomes for the dentist (as an individual or as a business).There is no ethicalcommitment to give any priority to the well being of the patient. If the outcome of a particular dentist-patient encounter leaves the patient no better off or even in a worse position than before, it would still be a successful marketplace relationship if it maximizes the dentist's interests and if the minimal ethical standards of the marketplace have not been violated.

## FOUR CHALLENGES TO DENTAL PROFESSIONALISM

This paper argues that differences between acting professionally and following the ways of the marketplace are clear and that the habits of professionalism, rather than the motivations of the marketplace, have become a way of life for most dentists. However, marketplace considerations that can affect a dentist's daily practice seem to have multiplied in recent years. Four aspects of contemporary life that challenge a dentist's efforts to maintain professionalism are described here. Societies differ in many subtle respects and some descriptions may not carry over from one society to another, but these reflections will show a pattern on these four themes that every dentist, no matter where he or she is practicing, could reflect on.

### The increased availability of information

One challenge for dentistry today is the increased public availability of oral health information via the Internet and other media. Of course, well-designed websites can be useful tools for educating the public about oral health, but some patients act as if having some oral health information means they can make dependable diagnoses and treatment recommendations on their own.Many people alsoseem to accept as accurate whatever they find on the Internet or in the media. Successfully educating one's patients about theiroral condition, treatment needs, and the possible outcomes of available treatments can be seriously hindered when patients believe they already know all they need to

know about these matters, and especially when that information is mistaken.

The ethically ideal dentist-patient relationship is a highly collaborative one. Relationships in which patients are simply passive to the dentist's professional authority were once commonplace and are still the norm in many parts of the world. But to enhance the patient's management of his or her own oral health, a collaborative relationship between dentist and patient is more appropriate and is now the ethical standard in the many countries. Since the patient does not possess the same expertise as the dentist in matters of diagnosis or treatment recommendation, the ideal collaborative relationship between themes of a different sort. Therefore, dealing properly with patients who believe they know as much as their dentist is an ethical challenge that many dentists are facing.[3ii]

What does this have to do with the marketplace? Patients who assume their knowledge of dental matters is as good as their dentist's are acting as if the dentist-patient relationship had become a marketplace relationship where there is no real expertise and each party's judgment is just as important as the other's. By implication, and sometimes explicitly, they interpret the dentist's efforts to educate the patient about oral needs as nothing more than marketing efforts to get a more lucrative sale and as deriving from marketplace motivations of self-interest, not as expert judgments offered for the patient's benefit.

Unfortunately, changing such a relationship into one in which genuine dental expertise is being offered in order to benefit the patient is often no easy task. The key is careful communication and respect for the patient, including supporting their desire to manage their own oral health. Especially as dentists observe the numbers of Internet-aware patients increasing, it may well be helpful for the dentist to be ready to recommend dependable and accurate Internet sources for oral health education and to inquire, in regard to each significant diagnosis or treatment, if the patient has received any information from some other source. Dentists need to learn how to direct their patients' efforts to take more responsibility for their own oral health into fruitful relationships that conclude in appropriate dental care.In addition, the dental profession in each country needs to make sure there are dependable and accurate Internet sources for oral health education

that dentists can recommend to their patients.

## Dental advertising

A second challenge is dental advertising. In many countries there has been a huge increase in the amount of health care advertising, including dental advertising, during the last two decades. Unless there are legal restraints or a strong organizational barrier, market economies have a way of turning almost everything into a marketable product. However, the advertising of dental services is not automatically a bad thing. Some advertising is genuinely educational about oral health or at least informs the public of the availability of dental services within the local region.

There is plenty of advertising, for example automobiles, whose principal appeal to the audience has no direct connection to the quality or availability of the product. Its purpose is to associate some symbol of 'the good life' with the product. The smiles of beautiful models or waving palm trees are not things that dentists' expertise can dependably produce for patients. Most patients know this, of course - but that is the point. The more dental advertising moves away from truthful, useful information about oral health and availability of services, the more the audience will come to associate dental services with the other marketplace goods whose advertisements are only remotely related to fact.

This same lesson is there in the extensive use of hyperbole in advertising - 'fluff' language. It is simply not true that every dental office is 'the best' in some way or offers 'total comfort' or even 'the perfect smile'. All but the most naïve of audiences know these claims are just fluff. However, if such fluff is regularly associated with dental services, it strongly suggests that there are no expertise-based criteria for judging excellent dental care, only each consumer's personal judgment. In other words, dental advertising unrelated to relevant factual information and filled with fluff suggests that dentists' services are no different from anything else you can buy in the marketplace.

Should dentists, in order to be ethical, refrain from advertising or from using the social media to get information out to the public? Prohibiting dental advertising is not the best solution and ethical dental advertising can be achieved.[4]However,one thing is certain. Wherever dental advertising is common, it constitutes one of the most important ethical challenges

for dentistry today and for the foreseeable future because it is not only the dentists who advertise who risk being viewed as merely sellers in the market; rather all dentists suffer to the extent that dental advertising is indistinguishable from marketplace marketing.

**Aesthetic dentistry**

A third ethical challenge for dentistry today is the growth of aesthetic dentistry. In many countries, there has been a marked increase in the public's interest in aesthetic dental procedures and many dentists have happily responded to the demand. Of course, given the ways that whitening agents and other aesthetic procedures could harm healthy teeth, or teeth with previously undiagnosed weaknesses or disease, it is better for consumers to purchase aesthetic services from dentists than from someone else. In that respect, even though dentists providing aesthetic services are not preventing or repairing oral health needs, it can be said that they are serving their aesthetic customers' oral health. But not every aspect of aesthetic dentistry is directly connected to preventing oral health problems. Woven into the dentist-patient relationship in the provision of most aesthetic services is a central characteristic of the marketplace relationship between buyer and seller; namely, the absence of expert (distinctively professional) judgments about goals, means, and success.

Admittedly, one standard of appropriate ethical dental care is that the dentist's work conforms to the dental profession's aesthetic standards of teeth properly shaped and colored within a complete dentitionand balanced with gingival and facial features. Every dentist commits to these standards as professional goals and develops the expertise necessary to meet them as part of his or her training. However, there is a fundamental difference between this aspect of professional dental care and the way in which the dentist functions in providing aesthetic services not directly connected to preventing or repairing oral health needs. In the latter, it is the consumer, not the dentist, who makes the determining judgment about three important things – (a) judging the need for aesthetic services; (b) judging which practical goals, if achieved, will fill that need and therefore which dental intervention is the best for the purpose; and (c) judging whether the intervention succeeded in achieving those goals and filling the need.

The dentist will typically offer skilled advice about which procedures are most likely to produce the desired results, and some dentists may be skilled at assisting customers in identifying the best aesthetic goals to fill their needs. Nonetheless, in these respects, this is only a marketplace relationship because the dentist's advice on these matters is just one person's judgment. It is neither authoritative nor representative of the expertise of whole dental profession. Instead what the dentist says to the aesthetic customer is no different in principle from what any knowledgeable salespeople in the marketplace might say and is, from the perspective of the marketplace consumer, indistinguishable from marketing in order to produce a sale.

Consequently, in this respect, the dentist-patient relationship becomes only a marketplace relationship. For in a professional-patient relationship, these three judgments (need, methodology, success) are expert judgments to be made by the dentist. In most aesthetic dentistry, these judgments belong to the consumer and that is why the person sitting in the dental chair for aesthetic services is properly thought of as a consumer rather than a patient.

The dentist may try to make this relationship as much like a professional-patient relationship as possible. The dentist may justify providing aesthetic services to existing patients in the interests of continuity of care for them or in the hope that doing so will attract some consumers to seek regular dental care. It is hoped there is a professional commitment by the dentist to refuse to provide aesthetic services that would significantly harm the patient even if asked. In these respects, the dentist may infuse as much professionalism into the provision of aesthetic services as possible. But the provision of aesthetic services not directly connected to preventing or repairing oral health needs will still remain a marketplace relationship because it is the customer's judgments about need, methodology, and success that are determining, not the dentist's. As above, the more a relationship between a dentist and the person in the dental chair resembles a market-place relationship, the more likely it is to also be interpreted as motivated solely by the marketplace self-interest of the dentist rather than by the ethical commitment of a professional.

It is possible that the social emphasis on meeting certain aesthetic criteria for our teeth and smiles is a social fad that will

pass in a few years - or it may intensify. However, it is certain that there are important reasons for dentists who provide aesthetic services to consider carefully the extent to which their doing so mimics marketplace judgments and marketplace values and leads the persons they serve to forget how different these are from the judgments and values that constitute dental professionalism.

**Insurance and third party payers**

A fourth challenge is connected with the increasing role of dental insurance and other third-party payers, including government dental care programs. Third-party payers typically limit the treatments that are covered for a given diagnosis, although those treatments covered are within the recognized standard of care for that diagnosis. In addition, third-party payers' decisions to maintain these limitations when challenged by a dentist for a particular patient are typically made by experienced dentists. Consequently, neither the limitations nor the decisions to maintain them in specific cases can reasonably be claimed to be replacing dental expertise with something else.

However if a dentist's decision that a certain treatment would be best for the patient is rejected by a distant, impersonal organization, that rejection can easily appear to the patient to be an interference with dental expertise and dental professionalism for the sake of marketplace success for the third-party payer.

Educating the patient about the more complex reality of the situation is something the dentist might undertake, saying for example: "These decisions are actually made by qualified dentists and are fully within the standard of care for your diagnosis. Unfortunately, your insurance premiums or tax dollars have only paid for a less expensive treatment for this diagnosis. My judgment is that the more expensive treatment would be significantly better for you for the reasons I have explained. So it is up to you to decide whether you want to spend the extra money for the more expensive treatment."

It is challenging for a dentist to try to explain this when a distant, nameless dentist who has not seen the patient has just rejected his or her best professional judgment. In addition, many patients find it difficult to understand that fully qualified dentists can disagree about what is the best treatment in a given case without either of them being mistaken and that, in dentistry, the standard of care may often include a

range of appropriate treatment options not just one that is best. This point is especially difficult to explain in societies where a large segment of the public believe that the only adequate treatment is the one best treatment and no other.

Moreover, some third-party payers are profit-making corporations that limit treatments to the least expensive precisely for the sake of market success for the corporation. This is in comparison with government programs and some not-for-profit organizations that limit costly treatments from a conscientious effort to ration limited resources equitably across a whole population of oral health patients. So the actual picture may be even more complex and, with some insurers, the patient may be quite correct to see the limitation of treatments as an inappropriate intrusion of the marketplace into the dentist-patient relationship.

So again, without special educational effort on the part of the dentist, patients and all who hear their story can easily interpret such situations as demonstrating that dental care is being increasingly driven by market considerations rather than the application of professional expertise for the benefit of the patient.

## CONCLUSION

It has been argued here that, in all our societies, the central challenge to dentists as professionals and to dentistry as a profession, both today and for the foreseeable future, is whether dental care will become submerged in marketplace values and motivations and in marketplace dependence on individual judgments rather than continuing to apply recognized expertise to serve patients' needs. Some of the factors that have brought about these challenges are social and economic processes that no individual dentist and no single profession will significantly impact alone. There needs to be broad social thinking within the whole dental profession, and ideally in concert with the other professions and the public at large, to affirm the social importance of the professions and of their professionalism for the health and welfare of our societies.

But every single dentist and every single dental office in each of our societies can play a crucial role in meeting these challenges by becoming articulate about them. Articulateness about professional expertise and professional ethics is a high value and the place where the public learns the most about what dental professionalism means in practice is in the dental chair and in the patient's other dealings with the dentist and his or her staff. Dental

organizations, study groups and dental schools can assist by making such articulateness a serious goal for all dentists and by providing learning opportunities to this end. The place to start is by becoming articulate about these challenges yourselves so you can then be articulate educators of your patients about what dental professionalism really means for them and why meeting these challenges to dental professionalism is important not just for dentistry, but for all people.

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I-O-F-O-S

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# Ethics in Age Estimation of Unaccompanied Minors.

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***ABSTRACT***

***Children absconding from countries of conflict and war are often not able to document their age. When an age is given, it is frequently untraceable or poorly documented and therefore questioned by immigration authorities. Consequently many countries perform age estimations on these children. Provision of ethical practice during the age estimation investigation of unaccompanied minors is considered from different angles: (1) The UN convention on children's rights, formulating specific rights, protection, support, healthcare and education for unaccompanied minors. (2) Since most age estimation investigations are based on medical examination, the four basic principles of biomedical ethics, namely autonomy, beneficence, non-malevolence, justice. (3) The use of medicine for non treatment purposes. (4) How age estimates with highest accuracy in age prediction can be obtained. Ethical practice in age estimation of unaccompanied minors is achieved when different but related aspects are searched, evaluated, weighted in importance and subsequently combined. However this is not always feasible and unanswered questions remain.***

***KEYWORDS*****:** Ethics, unaccompanied minor, children's rights, medical ethics.

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## INTRODUCTION

Ethics are the rules of conduct recognized in particular professions or areas of human life.[1] The term is applied to conduct and behaviour in human interactions and to a philosophy concerning what is right/ correct and what is wrong/incorrect. It can also involve an evaluation between good and bad. In many cases this difference is clear, but in most instances there are borderline issues leaving the question: What can be accepted? Ethical views change over time and may also vary in different cultures and traditions. In the case of age estimation of unaccompanied minors there are no clear cut borders of what ought or ought not to be done and this raises the questions about behaviour, decision-making, values, rights and responsibilities.

In the past 5 to10 years there has been an increase in migrants to EU and other western countries from regions struggling with poverty, famine, war and natural disasters. Some of these are children travelling on their own. In 2011 some 12 230 unaccompanied minors applied for asylum, 1500 more than in 2010. Sweden (2 655) and Germany (2 125) received the largest number of minors.[2] The European migration network (EMN)[3] and the United Nation's Refugee Agency (UNHCR)[4] report a growing number of unaccompanied minors seeking asylum in Belgium (Table 1). There is also a tendency for younger children to apply for asylum. Under the EU directive, "unaccompanied minors" refers to third country national or stateless persons below the age of 18 who arrive in the territory of the member states unaccompanied by an adult responsible for them whether by law or custom, and for as long as they are not effectively taken into the care of such person, or minors who are left unaccompanied after they have entered the territory of the member states[3]. Member states may in addition have different national legislation as to legal age and age of responsibility.

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different national legislation as to legal age and age of responsibility.

| Country origin | Age estimation result | | Total |
|---|---|---|---|
| | < 18year | > 18 year | |
| Afghanistan | 23 | 112 | 135 |
| Guinea | 5 | 58 | 63 |
| Algeria | 5 | 22 | 27 |
| Iraq | 8 | 18 | 26 |
| Congo (DRC/RC) | 1 | 12 | 13 |
| Morocco | 4 | 8 | 12 |
| Ghana | | 11 | 11 |
| Angola | 1 | 7 | 8 |
| Cameroon | | 7 | 7 |
| Pakistan | 2 | 5 | 7 |
| **Total** | 49 | 260 | 309 |

**Table1:** Number and nationality of unaccompanied minors examined on age in Belgium during 2010

A report from European Migration Net lists the reasons for unaccompanied minors entering the EU as persecution and seeking protection, family unification, economic and aspirational reasons, joining migrant or diaspora communities, transit to other member states, victims of trafficking and smuggling, medical reasons, abandonment and "runaway and drifter".[3]

An updated and extensive list of the international legislation for handling refugees and children has been published by the Immigration Law Practitioners' Association.[5] Among them are Universal Declaration of Human Rights (1948),[6] United Nations Convention Relating to the Status of Refugees (1951),[7] United Nations Convention on Children's rights (1989).[8] The Dublin Regulations (2003)[9] state that

the asylum application should be treated in the first EU country they enter or in the EU country where the parents reside. EU has many other directives and is especially concerned about human trafficking of children.[10] In addition there are national legislations which vary according to local needs and demands.

The unaccompanied minors are a vulnerable group who need protection and therefore special provisions are made.[11,12] According to the EU – Reception Condition Directive, member states have to ensure representation of the unaccompanied minor by appointing a legal guardian or person or body which is responsible for the care and well being of the minor. When no relatives are found in a member state, the child is applying for asylum in her/his own right. The guardian must safeguard the child's well being. Children have the fundamental right to health care and education.

A few criminal offenders claim to be under the legal age and some children have been subjected to criminal offences like smuggling, trafficking and sexual exploitation (this applies both to boys and girls). The legal age for marriage varies from one country to another, but in some cases of forced marriages, the age given is higher than the real age. In junior sports which are graded according to age groups, it is suspected that some participants are older than allowed and gain from body strength and have physical advantages over their peers. There are also under-aged athletes competing particularly in sports in which late maturers may be at an advantage e.g. gymnastics.[13]

Because children have special rights, some immigrant children present with a doubtful or false age to try to gain from these benefits. To prevent abuse of the system and to protect the children many countries have introduced age estimation procedures in cases where the given age is questioned. This is to avoid a generalised examination of all migrating young unaccompanied fugitives.

Age estimations may be defined as examinations to detect chronological ages when the children's ages are unknown because the births may never have been registered or they arrive without being able to document their age. In many western countries chronological age regulates the right to schooling and education, legal responsibility, being allowed to drive a car, taking part in elections and for adults the right to draw a pension.

Examination methods for age estimation may be performed as either a so-called "holistic approach"[14] or purely based on medical and dental findings or a combination of these. There is, however, no method that can determine the age of a child. The biological variation in growth and maturity must always be considered. The nearest one can get is an age estimate.

The non-medical methods may look at the credibility of papers and documentation. The story the child tells, information supplied in interviews and background knowledge. It is often a caseworker who will question the given age and request an age estimation. This may be supplied by examination of physical appearance, sexual maturation and observation of the child's behaviour,[15] but excluding all evidence which may be obtained by radiology.[16] This is most commonly performed by specially trained staff. The given age estimation, will always be subjective.

Age estimations based on medical examination include

- Bone maturity which is observed on radiographs as the development and fusion of the long bone growth-centres (e.g. in the hand and wrists).[17]
- Physical development includes measuring height and weight and after the onset of puberty also grading the developments of sexual characteristics.[18,19]
- Dental age estimation includes grading tooth development both clinically and on dental radiographs.[20]

Much research has been carried out on both the medical and dental age estimation methods and this is still an ongoing process with advance imaging technology and statistical interpretation.[21,22] It is well known that children develop and mature at different rates – some mature early and others late. Intrinsically each body part matures differently and external factors may influence this maturation.

The parties involved in the age estimation process are obviously the children themselves and the contracting authority; this may be the immigration authorities, reception centres, child welfare centres, the courts or police who want an estimate of the age of criminal offenders or people picked up in the country without proper identity documents. The examiners may be either non-medical workers such as case worker or (specialized) medical staff. A part of the case worker's task consists of

finding age related evidence, such as: available identification documents, the age declaration by the applicant, the information accessed during interviews with the applicant and information obtained from the country where the applicant originates[23]. The society is also involved in the age estimation process as it provides the legal framework by national jurisdiction and regulations and international conventions as already mentioned. The human rights declaration states a person's right to freedom of religion, and processes which are contradictory to religious practice, have to be respected. In age estimation this issue is most commonly between female applicants and male doctors.

## AIMS, MATERIALS AND METHODS

The aim in this article is to present ethically acceptable practices during the age estimation examinations and procedures in young unaccompanied minors. Therefore specific characteristics of the age estimation investigation are evaluated and framed in the context of diverse but connected aspects such as (1) the legal implications of the UN convention of Children's Rights,[8] (2) because age estimations are the result of medical examination(s): the four principles of biomedical ethics,[24] namely autonomy, non-malevolence (non-maleficence), beneficence and justice, (3) the relation to medical examinations applied for non-treatment purposes. Key aspects of these three generally accepted principles are collected and discussed in the context of age estimation. Furthermore the age estimation results are estimates and accordingly (4) the conditions to obtain the most accurate age estimation methodology is reviewed.

## UN CONVENTION OF CHILDREN'S RIGHTS.

The UN convention of Children's Rights states that children have the right to protection.[8] In the EU convention each child should be appointed a guardian who looks after the child's interests. From time to time the guardian or case worker intervenes in the age estimation process. Rightly, the guardian's job is to secure that the applicant is fairly treated and not subject to systemic or personal errors. A child has the right to healthcare which should be provided during the application process which is necessary to get an official status. From 2009 to 2011 age estimation was carried out on 1394 minor asylum applicants in Norway. Only 2% reported medical problems, but more than

50 % of the children were in need of dental treatment. Some had large abscesses and needed urgent dental treatment. A child also has the right to education[25] and language tuition is often provided during the process. This is part of the integration procedure.

The child has the right to know**.** Most of the children seeking asylum maintain they are between 16 and 18 years. They are old enough to be able to express themselves and special attention should be paid to language and communication**.** This is difficult when there is no common language or concept of words. Cultural and religious differences may be huge.[26]

In Norway from 2009-2011 more than 80% of the unaccompanied minors were older than 18 years. The legislation in Norway has changed so that children younger than 16 years are allowed to stay permanently, but those between 16 and 18 years are returned to their home country when they reach 18 years. Since this regulation was introduced in 2009, children applying for asylum are younger. It is however important that the children know the consequences of the results – which in many cases imply that they will be treated as adults.

## BIOMEDICAL ETHICS

Most age estimations in living children and sub-adults are based on medical examinations and medical knowledge. Therefore the basic ethical values of biomedics[24] need to be respected during age estimation examinations in living individuals. These values were described as autonomy, non-malevolence, beneficence and justice.

### Autonomy

Every human being has the right to physical integrity and protection of privacy[27] and can accept or refuse medical investigation or treatment. As a consequence a medical examiner needs permission from the patients themselves, to perform a medical investigation or treatment. Minors have the same rights, but they are regarded as being incompetent to decide for themselves. This implies that a medical examiner needs permission from one of the parents to do a clinical investigation or carry out treatment. However, mentally mature youngsters are considered as adults (mentally grownups) and may give permission for examination or treatment when the parents refuse, or they may give permission without the parents' knowledge.[28] In these cases the child gives her/his consent to treatment.

Classifying unaccompanied minors as mentally mature needs specific examinations performed by specialised investigators in a standardized way. During the whole age estimation process related to unaccompanied minors, the applicant has to be considered and treated as a child. Due to their status, the responsibility of the parents is taken by the appointed guardian. Therefore, from an ethical point of view, being a mentally mature youngster should not be taken into consideration when deciding who can give permission to accept the proposed investigation. This permission should always be given by the guardian in full agreement with the applicant and her /his guardian. Because the guardian gives the permission, consent to carry out the investigation is given. The examined unaccompanied minor also has to be informed about the fact that the medical examiner is working for a third party (national authorities) implying that a normal relationship between patient and medical-examiner does not exist. The identity of the instructing authority and the purpose of the assessment have to be provided and explained to the applicant. In all circumstances, the applicant has to be informed about all steps in the age estimation procedure, the reasons why these steps are used and the consequences of the results of each step. Medical patients have the right to express complaints during medical treatment and this also applies during age estimation examinations. The child or guardian must be informed about this and has to receive information about the complaint procedure. This information has to be given in a manner and language understandable by the applicant, which would normally be in the applicants' native language,[29] and is preferably orally explained and written out in a provided brochure. An interpreter has to translate all information and the whole communication between all the participants present. In addition the information must be provided in a manner taking into account the assumed age, previous knowledge, the education level and the socio-economic background of the applicant.[30] To optimise these conditions in practice the information session should be an open discussion between the examiner, the applicant, the guardian and/or the lawyer of the applicant, correctly translated in two directions by the interpreter. The medical examiner has to monitor that an informed consent is given in full agreement between the applicant and her/his guardian (and/or lawyer) and that the applicant has fully understood the information provided. At best the informed consent is written and

signed by the guardian. To express the informed consent of the applicant her/his signature can be added. Refusing the age estimation investigation without acceptable reason (e.g. pregnancy) has no advantages for the applicant. Indeed, age estimations based on medical criteria are the most accurate among all age estimation method. Avoiding medical age estimations increases the risk of obtaining a wrong estimation of age. Refusal is reported to the decision making authorities and although the refusal should not prejudice the final decision, in practice it is interpreted as being not in the applicants best interests in many countries.

**Non-malevolence**

No harm, other than necessary for optimal recovery, should be done to patients during diagnosis, treatment or healing. Physical harm can be done to applicants for age assessment using ionizing diagnostic tools.[31] The degree of dental and skeletal maturation observed on radiographs is the basis for the most commonly used age estimation methods, because it allows investigators to observe the age related variables which provide most accurate age predictions. Therefore panoramic (dental) and hand-wrist and/or sterno-clavicular (medical) radiographs are evaluated. The radiation doses (and the exposure time) used during these radiographic examinations together with the radio sensitivity of the evaluated body part are indicative of the possible physical harm done to the examined individual. The effective radiation dose takes into account the biological consequences of radiation, in particular the relative sensitivity of the different exposed tissues. It allows one to estimate the risk and compare the dose from ionizing radiation to other radiation sources. The scientific unit used to express the effective dose is Sievert (Sv). The dose used in the radiographic examination of an applicant for age estimation may be compared to natural background to evaluated the harm.[32] On average every person receives yearly between 2000 and 2500 µSv natural background radiation (5µSv/day). This means that the doses needed for panoramic (5-30µSv), hand-wrist (4µSv) and sterno-clavicular (20µSv) imaging together correspond to the dose one receives from natural surroundings in 10 days. Placed in the context of the travelling history of unaccompanied minors, it has to be noted that airplane travel exposes the passengers to additional cosmic radiation (e.g. flight Cameroon-Belgium 26.65µSv). This implies that unaccompanied minors often receive more,

or equal, radiation during the flight from their home country to the country of refuge or shelter than they do during the radiological examinations for age estimation. At present non ionising alternatives which allow for observing age related variables, are non-existent, not fully developed or not verified. Ultrasound can under restricted conditions be used to observe certain skeletal age predictors.[33,34] Magnetic resonance imaging (MRI) can be used to evaluate the ossification of hand-wrist bones and clavicles, but the techniques are not validated.[35] For dental age examinations the technique is still at an experimental stage. The general disadvantages of MRI are: few numbers of available units and their constant use in medical diagnosis, the time-consuming procedure (at least 4 minutes per field of interest), the claustrophobic examination circumstances and the extreme expense of each examination.

An additional effect of the radiological examinations, certainly panoramic radiographs, is that underlying pathologies may possibly be detected. When the applicant is provided with such findings, necessary treatment can be initiated. Since additional medical findings observed during age estimation are covered by the medical confidentiality, such information should not be included in the age estimation report. Therefore the applicant should be informed about the clinical and/or radiological findings and the X-rays made available, or the doctor or dentist responsible for treatment is given permission to obtain and evaluate this information.

Psychological harm could be done to unaccompanied minors during certain physical body and sexual maturity examinations. Certain examinations on naked applicants and the use of "measuring tools" can be dishonouring. Unaccompanied minors are vulnerable to psychological harm due to the fact that they are totally dependent on their own resources or on resources provided by the host country. This vulnerability is enforced when histories are told of torture, imprisonment, war, murder of family members, extreme circumstances during migration, interrupted social relations and detention. Therefore interviews organized to detect the mental age of unaccompanied minors should be performed in such a manner that the life experiences of the unaccompanied minors are discovered and taken into account during the age estimation interviews. It should be performed by psychological professionals, building trust and taking time to achieve a

correct and non traumatizing approach. Since decisions on the ages of the unaccompanied minors are ideally made shortly after arrival in the host country in the interest of all parties, this does not generally allow the mental age of an individual to be evaluated properly. In addition such age estimation approaches need reliable scientific background which enables standards to be established providing equal estimates and related uncertainties to all applicants. As described earlier, minors are often mentally mature, implying that age estimations based on mental maturity will often overestimate age (classifying minors as mature). There is little evidence and research so far carried out on this age estimation procedure.

**Beneficence**

Actions should be taken to serve the "best interest" of the patient during the medical diagnostic procedures, treatment, healing and follow up. In relation to age estimation examinations the "best interest" of the applicant is served when proof of her/his age is given. Misclassification of the applicant is not only harmful for the individual, but the whole group into which someone is wrongly appointed is affected. During most of their status regulating procedures and before the final decision is put into practice the applicants are living together.[36] As such no benefit is given to a wrongly classified child that has to live together with adults, or to wrongly classified mature people who want to receive protection and will be treated as children. On the other hand the dynamics of a group of children with a misclassified adult included, or the group of adults with a wrongly classified child is disturbed. One of the major ethical issues must be to avoid misclassification – this applies both when children are estimated to be adults and when adults are estimate still to be children. There need to be a constant awareness that children should be protected from exploitation, human trafficking and other related offences where children are especially vulnerable.

The age estimation has to include the uncertainty of the prediction. The lowest limit of the predicted age should give the optimal benefit of the doubt to the examined applicant. The uncertainty of the prediction gives the parameters in which the final decision can be made. As described above, another benefit for the applicant may be the radiological findings, and diagnoses which are made available to the applicant, allow medical treatment to be initiated.

**Justice**

Justice may be defined in different ways.[37] Firstly, it concerns the fair distribution of risks and benefits. This implies that the possible physical risk related to the consequences of the ionising techniques has to balance the main benefit, namely better living conditions. The contrast between the two parameters is so extreme that the negligible harm, necessary for approval, melts away related to the better living conditions. Secondly, justice covers equal treatment of all applicants during the entire age estimation procedure. Therefore no objection can be made against the applicant being accompanied by her/his guardian and/or lawyer in all steps of the age assessment. The physical integrity, socio economic background and religion of the applicant should be respected. Is it in this context appropriate that female applicants are examined by a male investigator, and that sometimes applicants are asked to take of their head covering although their religion restricts such practices? Many countries adapt the principle that the child should always have the benefit of the doubt.[4] It has been observed that each profession involved applies the principle of "benefit of doubt" in each step of the evaluation, resulting in multiple "benefits of the doubt". This gives neither the correct age nor the ethical correctness expressed in the concept of "benefit of the doubt". Justice is not served when "benefits of the doubt" are integrated in the age estimation procedures. In each part of the age estimation procedure any possible given benefit of the doubt is case specific, implying that the impact on the age estimation result is different for each applicant.

Thirdly, justice is done to all parties involved if proof of the age of the applicant can be provided. Consequently the applicant has nothing to fear if she/he has indeed an age of minority. The proof allows the authorities to provide a legally correct decision. Legally correct decisions do not require the basic information of the estimated age of the applicant, but the ability to discriminate between minor or major (child or adult). The threshold is legally regulated on a national level and in some instances is also gender specific. In certain countries other age thresholds may be of importance for additional decision making. Classification of the applicant above or under a set age threshold is commonly used. The most important question left in this context is: What level of likelihood has to be reached during this classification? Setting this level is more a legal decision than an ethical issue. The

range of choice lies between 50,1% and the scientifically highest achievable certainty. It may be that different age related variables can provide the desired probability when either combined or separated for each age predictor. In the latter situation different estimators can be used to confirm the finding of a (chosen) principal predictor, or each predictor can deliver separately a weighted value. Under these conditions the estimated age of the applicant is of secondary importance and only needed when the applicants who were classified as children, become adults. Estimated ages cannot provide exact dates of births to applicants, but at the moment adulthood is reached the accuracy of the estimates is much less important and less consequential than when deciding whether an applicant is still a child or already an adult. Indeed the host country will have to provide the applicant with longer protection as a child when applying the "benefit of the doubt" at the moment adulthood is reached.

## MEDICINE FOR NON TREATMENT PURPOSES

Certain medical examiners refuse to perform age estimation examinations because medical knowledge and medical diagnostic tools are being used neither for the purpose of treatment nor for improving or maintaining health. Medical applications are daily administered for other reasons in a lot of fields. Commonly accepted examples include: medical examinations for detection of alcohol and drug intoxication or abuse, surgery and medical treatment for aesthetic reasons, medical procedures in euthanasia, medical assistance to improve sports performance, medical tools applied to execute death penalties, medical treatments during research experiments[38] and DNA sampling to prove contact with a victim. In addition medical examinations are often carried out on behalf of a third party to evaluate the medical status of an individual e.g. for insurance purposes and as such, is not performed to serve the healing purposes of medicine. Age estimation procedures can be classified in this group of medical applications for non treatment or healing purposes. Most of these applications are commonly recognized by the communities involved. Moreover age estimation examinations may indirectly serve to improve health conditions of all accepted as children. Indeed, the purpose of age estimation examinations is to help applicants to get better living conditions, and in particular better access to healthcare and consequently better health prospects.

Is it the combination of undergoing a medical investigation for non treatment or healing purposes and an examination carried out on behalf of a third party, that provides the examined individual the name of applicant instead of patient?

## AGE ESTIMATION METHODS

To evaluated the ethical issues of the age estimation method(ology) it has to be considered whether the chosen method(s) are based on ethical research and applied in a uniform way. Research may be considered ethical if based on ethically approved sampling followed by reliable and reproducible data collection. Correct sampling implies that the number of included subjects is representative to draw conclusions. The sampled individuals are selected randomly, but stratified on a homogenous distribution in age and gender. The choice of variables depends on their age related outcome and their ability to be uniformly observed and registered. The data collection is standardized and tested upon high intra- and inter observer reliability. A correct bio-statistical evaluation and modelling of the collected data is required to relate to clinical interpretation of the study results. The developed method must be verified on a test sample (dataset).

For equal treatment of all unaccompanied minors the applied age estimation method needs a uniform and totally reproducible approach on national and international level.[39] Currently this is not the case due to differences in chosen protocols and national regulations combined with a lack of international consensus. Therefore the scientific best age estimation method may be the only option for a uniform and optimal ethical age estimation practice. The best age estimation method provides the smallest difference between estimated and chronological age. Few reviews and no systematic reviews of age estimation studies are performed and therefore the search for the best age estimation method mainly depends on the expertise of the examiner. Currently best age estimation methods use age related variables observed using ionizing diagnostic tools (i.e. dental and skeletal maturation). Combinations of age related variables (and related age estimation methods) (probably) provide more information about age and should be considered. The mutual weight of the different age related variables used, should preferably statistically be modelled. Therefore reference samples (databases) should be available which include age information of all required variables, registered for each of subjects at the same

moment. At present this is not established and the case is weighted from different variables depending on the interpretation of the expert. Because the chronological age is estimated, the age is reported together with the related measure of uncertainty. A likelihood of the examined applicant being older or younger than the age threshold(s) of interest completes the age estimation result. The case closing procedures start with a report which gives the results from the age estimation examination. The report must be written in non-scientific language which can easily be understood by the decision maker(s). It contains all relevant facts of the age estimation examination, the registered age related values, the scientific references used and the age estimation outcomes. It is the task of the experts to express their opinion about the estimated age (plus related measure of uncertainty). When different variables are used, their expertise allows for interpretation of the results, correctly related to the likelihood of having passed a specific age.

In addition the costs of the expert's examination and report should be included. This makes all involved parties aware of the fact that the age estimation procedure is an expense in the host country. Moreover it emphasises the fact that the age estimation was commissioned and performed independently. The overall costs of the age estimation examinations has to be compared to the costs incurred by applicants if age estimations were not performed, with consequent incorrect categorisation of the applicant. The age estimation report is handled by a caseworker who understands the scientific background of the performed age estimation. The national regulations should be implemented and the international conventions adhered to. The final task will be to inform the minor of the results.

The consequences of the age investigation are that the applicant will be treated either as an adult or will receive a protected status as a child. In both cases a possibility for appeal against the decision, based on a defended age estimation must be possible. In this context the transparency of the age estimation examination and report should enable other experts to reproduce all performed examinations, to check the results and to evaluate the clinical interpretations. Especially for the last aspect all "benefits of the doubt" given to the applicant need to be reported in detail. Whatever the resulting consequences are for the applicant, an integration into the country of refuge or a reintegration to the country of origin will be essential.

Therefore ethically correct (re)integration programmes have to be set up by the country performing the age estimations. This (re)integration starts at the moment the age estimation procedure begins by means of the available health care[40] and education facilities.

## DISCUSSION

Children have the right to know, implying that they also have the right not to know.[41] The purpose of the age estimation examinations is to estimate the age of the applicants so that they can be treated as juvenile or adult. If other information is discovered and the applicant doesn't want to know (e.g. proof about wrongly assumed sisters or brothers) it should be respected. In practice it is feasible not to provide the applicant information regarding the estimated age, but the information about being juvenile or adult will become clear due to the subsequent steps in the procedure. The applicant should receive information about the right (not) to know and his/her will recorded in the informed consent.

The right to know can also apply to additional medical information discovered during the age estimation investigations. This information can ranged from being of no consequence to life threatening for the applicant. Can the medical examiner provide this additional information to the applicant? In the circumstance when serious medical conditions are observed and the applicant has expressed the will not to know, the medical examiner is confronted with a serious dilemma. How should it be handled? At the moment of the observations the applicant is still considered as a child. Can the observed information be given to the applicants guardian?

In the situation where additional medical information obtained is a factor influencing the age prediction, the transparency of the report requires that, at least, the fact that a medical issue affecting the age predictions was observed. Is reporting this finding against medical confidentiality?

The term "best interest" encompasses diverse issues regarding the well being and safety of the unaccompanied minor, which is a priority. The task of the caseworkers is to assess those aspects which are in the best interest of the child. Justice requires equal treatment of all applicants. Does equal treatment imply identical treatment to all applicants or treatment in proportion to the specific needs, the efforts made, or the degree of suffering experienced?

Medical age estimation is based on age related medical features observed in the applicant. These observations contain and register specific information of the applicant's medical history and are the basis for medical tests. In medical practice this information is kept in the patient's record. At the time of age examination the current situation of the unaccompanied minor may preclude access to previous medical records. Moreover if medical information is obtained by the commissioning third party and this influences the future status of the unaccompanied minor, appeal against this decision must be possible. Such medical information should not be disclosed to a third party but may be disclosed to the applicant. Remaining questions are: Who keeps the obtained medical information? Where and how is it stored? Who has authority to access it?

## CONCLUSION

Ethically acceptable age estimations of unaccompanied minors are obtained, when ethics are applied in each step of the procedure and in all related issues. The individual aspects need to be evaluated and debated so as to assess their importance in the procedure. The aim is to find a consensus of all involved parties. It was found that in each step of the age estimation procedure space for discussion was left. There is a need for further discussions in order to obtain a protocol for uniform ethically acceptable age estimation procedures.

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