



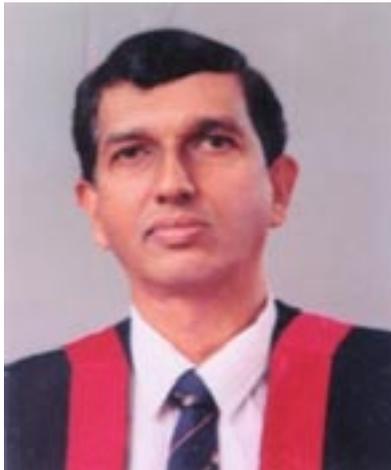
Commonwealth Dental Association

Working for Oral Health in the Commonwealth

CDA BULLETIN

The Newsletter of the Commonwealth Dental Association
CDA is supported by The Commonwealth Foundation

President's Message



Hilary Cooray

Greetings of goodwill, peace and harmony to all, in this season of Christmas, from myself and the other members of the Executive. The New Year brings us new hope, along with its challenges in this rapidly changing world. Socio-economic and cultural environments are not static and therefore changes are imperative for survival.

In our own Commonwealth Dental Association, we are searching for a new way forward, an alternate strategy to be more responsive to the needs of its objectives. Discussions need to be done within the CDA executive, national dental associations and among other stakeholders. It is our duty to find solutions which benefit all member associations and the people that they serve.

The objectives of the CDA are very clearly laid down in the constitution. They have to be revisited to find out whether they are suitable to the current environment we live in and how the CDA can improve

its effectiveness. Your personal views, and those of your national associations, are vital for this process. We invite every oral health professional interested in contributing to this venture to communicate with us.

When we look at some of the human sociological statistics and the challenges before us, it would make us wonder what an unequal world that we live in. Here are some of the realities we are faced with:

- 80% of the population live in substandard housing
- 70% of the population are unable to read
- 50% of the population suffer from malnutrition
- 1% of the population would have had a college education
- 1% would own a computer
- 35% of the population live on less than US \$2 a day.

When one considers our world, the Commonwealth, the challenges for oral health/health care become glaringly apparent.

The need of the hour is to focus on ways and means to strengthen the Commonwealth states to enable them to empower and assist their peoples to deal with their current problems in health and oral health. All our future activities, enunciated in the objectives of our Constitution, such as primary oral health care strategies, technical cooperation, dental education, bulletins, ethical practice, meetings and conferences must necessarily have a relevance to the main focus.

Hilary Cooray

President

From the Editor



D Y D Samarawickrama

Whither CDA?

The CDA has been in existence for some considerable time. It has tried to live up to its ideals and fulfil its goals and objectives as set out in its constitution. However, the world is a very different place now.

With the advent of modern communications, the world has not only got smaller, the pace of life has also quickened. Information can be accessed at the click of

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a (computer) mouse and print media is becoming less important. Nevertheless, in those parts of the world where electronic media are in short supply, print media has a role to play.

One of the roles the CDA has performed is facilitation of knowledge transfer by hosting jointly with other like-minded organisations meetings and workshops in the constituent regions of the Commonwealth. Legitimate questions have been asked about the wisdom of transporting a few delegates - at considerable expense - to these events. It does not seem to be a prudent way of spending dwindling resources at the disposal of the CDA. The Association has undertaken distribution of computers, books and journals where they have been needed. It has also published the Bulletin regularly, with modest scientific content. All these activities meet only a fraction of the needs and demands of the less developed members of the CDA. Furthermore, the only evidence available at present to demonstrate that these events have had an impact on promoting oral health of the communities is anecdotal. There is a paucity of hard evidence.

Therefore, it is timely that the CDA Executive is engaged in a strategic review of its functions, methods of operation and ways of raising funds in a world beset by economic woes. The CDA's principal source of funding is the Commonwealth Foundation (CF). However, the CDA Treasurer has secured significant other funding to supplement the modest grants given by the CF, which have been decreasing in amount over the last few years.

Added to this is a review launched by the CF itself to examine its overall processes. It is developing a new strategic plan with a view to re-launching the CF around June 2012. Their staffing levels have already changed significantly, with a new director expected to be in

place in the near future. The CF is also due to adopt a new approach to its grant system.

Therefore, it seems safe to assume that such a review is unlikely to result in increased funding to the CDA and other similar organisations in the Commonwealth. Furthermore, CF has been very slow to respond to communications from the CDA, indicating that its management may not as efficient as it used to be.

All in all, the strategic review currently being undertaken by the CDA Executive is not only timely but also necessary. It is for the constituent NDAs to participate in this review and make their voices heard.

It is hoped that what will emerge after the review will be an organisation fit for purpose in the 21st century and less reliant on the CF for its funding. However, it is unlikely to be leaner because it is already a very lean organisation run by only a handful of volunteers. Nevertheless, it needs to be effective in promoting oral health in the member countries.

DYD Samarawickrama

Editor

FINANCIAL REPORT



Dr Anthony S Kravitz OBE
CDA Treasurer

This time last year I gave an upbeat financial report to the Bulletin. Hopefully you will find this one positive, although this is out of character for a treasurer – we are usually a very pessimistic lot!

As usual, we are half way through our financial year at the time of writing and I am able to project more accurately what will be our expenses for the rest of the (financial) year – as our remaining projected activity is very limited, accidents and emergencies excepted, of course. Income is a little more difficult, as national dental associations vary on how quickly they pay their subscriptions, after I have sent the bill.

To remind you, our financial year runs from July 1st to June 30th annually – which is the same as that of the Commonwealth Foundation, our principal sponsor.

The budget for 2011-12, which I prepared last summer, was accepted by the CDA Executive and with two big events planned (Barbados and Kuching) I predicted a deficit this year of about £6,000 – wiping out most of our previous year's surplus. I forecasted a turnover of about £24,000 – about a £1,000 less than the actual income for 2010-11. At the moment we have received only a quarter of that (about £6,000) but I am awaiting approximately £9,000 from the Commonwealth

For news about events and activities in the Commonwealth, please visit the Commonwealth Foundation web site at:
www.commonwealthfoundation.com

Foundation and a principal sponsor of our recent Barbados event, both of which are a little overdue. The remainder of the income for 2011-12 will need to come from subscriptions.

Expenses are running as planned, so far. Our running expenses stay more or less constant, thanks to the generosity of the British Dental Association. The biggest draw on our funds was always going to be the Barbados event, but fewer dentists than expected applied for funded assistance of their travel, so our expenditure was £2,000 less than I had allocated. Hopefully, this will mean that our deficit this year will also be less than expected.

As I wrote a year ago, it is as well that our reserves are built up as we still have some funding to provide for the Kuching meeting in May – although here I must pay tribute to the Malaysian Dental Association, who are providing amazing financial help to us, by subsidising the attendance of any CDA participant.

But, the biggest expense we have in the near future is the cost of our Triennial General Meeting in October 2012. We are making this an exciting and hopefully very professionally rewarding event and we have planned for a big attendance. But this costs us more money. Nevertheless, please come if you can.

We have bid for maximum funding from the Foundation (£15,000) but it will be May or June before we find out whether we have been successful. We have also been promised some external sponsorship funding and I know that our incoming President, Bill O'Reilly is working hard to get some more sponsorship. Hopefully, all this will cover our costs, otherwise the reserves - "money put away for a rainy day" – will become very much smaller.

CDA WORKSHOP IN BARBADOS November 2011

Report by Drs. Hilary Cooray, Anthony Kravitz, Victor Eastmond and Jayanie Weeraratna

The Commonwealth Dental Association in collaboration with the Barbados Dental Association, held a workshop on "Education, Abuse, Neglect and the Oral Care Practitioner".

The meeting was held in Barbados, at the Accra Beach Hotel in November 2011 and was organised by Dr Victor Eastmond of Caribbean Dental Program Inc. assisted by Dr Anthony Kravitz, Treasurer of the CDA.

The meeting was formally opened, in front of about 60 attendees, by the Minister of Health for Barbados, the Hon. Donville Inniss.



Fig 4.1 CDA participants at the Barbados Convention,
Back row (from the left): James Schneider (USA/Canada), Victor Eastmond (Barbados), Joyous Pickstock (Bahamas), Derek Marshall (Antigua), Jerome Douglas (Grenada), Toni-Michelle Marshall (Barbados), Ralph Narine (Trinidad & Tobago), Herman Bernitz (South Africa) & Anthony Kravitz (CDA Treasurer UK)
Front row (from the left): Jayanie Weeraratna (Sri Lanka), Tanya Mortemore (Bahamas), Hilary Cooray (CDA President, Sri Lanka), Tony Lewis (Jamaica) & Jullie Dubois (Grenada)

Education

On the first day of the programme there was a large entourage from the Barbados Dental Association present, to join the 20 dentists attending the whole workshop. This first day commenced with an extensive discussion in relation to the delivery of education to dental professionals. There were presentations by Professor Stephen Lambert Humble, Dean of Postgraduate Dentistry for Kent, Surrey, and Sussex (KSS Deanery) and Noam Tamir CEO and Chairman of Smile-on Ltd. There was also an online webinar lecture by Dr Raj Rattan, Post Graduate Associate Dean at the

London Deanery, which besides its content, gave participants a demonstration of the usefulness of webinars.

Prof Stephen Lambert Humble gave a synopsis of how to plan future education requirements to match personal and practice needs. He described what to look for in developing a career and gave some idea of what is available in the UK that could be accepted in the other parts of the world. He explained the FGDP(UK) Key Skills and part-time blended courses, including degrees that allow for studying and working at distance. He spoke about some of the programmes such as the Clinical



Fig 4.2 Some of the audience for the opening ceremony



Fig 4.3 Barbados DA President, Dr Pamela Phillips welcoming the Minister of Health (2nd from the left) and other dignitaries

Dental Training programme, an e-learning programme for 10,000 experienced dental nurses to be trained and registered, an MSc in Primary Dental Care for dentists, and CPD for the whole team. This included clinical governance and programmes for enhanced practitioners and an e-learning programme on Oral Cancer.

Noam Tamir, in his two presentations for the first day, described how the distance barrier between the trainee and the trainer could be broken down using e-learning. He gave examples of courses and programmes that have been developed by his company Smile-on.com for the benefit of all Oral Health Professionals. He also described the concept of webinars – “What are they?” and “How do they work?”

Dr Raj Rattan’s lecture demonstration was designed to inform the attendees of current best practice in approaching continuing professional education. Such methods of disseminating education are now a reality that will be of great benefit to colleagues in isolated or dispersed areas. These benefits are especially significant when attaining postgraduate qualifications, without the drawback of being away from home and practice for long periods.

Caribbean Regional Dental Association

The organisers took the opportunity of reserving second half of the afternoon session for getting together the delegates from the various Caribbean countries to discuss their common political problems and how the CDA may help them. A presentation about the CDA was made by Dr Anthony Kravitz, following which the delegates resolved to re-form the Caribbean Regional Dental Association, which had become moribund for several years.

Dr Tanya Mortemore was elected interim Chair and a small sub-committee was formed, to continue discussions by email, with a view to adopting a new constitution in due course.

Abuse and Neglect

The second part of the workshop, on days 2, 3 and 4 had an extensive list of lectures on Abuse and Neglect. They highlighted the problem of abuse and neglect of women, children and other adults and described the various forms of mental and physical abuse. The programme was focused on creating awareness and increasing the knowledge of all oral health practitioners on the diagnosis, prevention, recognition, reporting and management of such cases.

Dr Emilio Nuzzolese (Italy), in his presentation, emphasised the importance of Oral Health Professionals as a resource for identification of child abuse and dental neglect.

Practitioners need to be aware of the physical and dental warning signs which may indicate possible abuse. Greater awareness within the dental health team will assist in early diagnosis, correct format for referrals, and timely referrals to the appropriate authorities which in turn will prevent serious harm being done to the vulnerable members of society.

Prof Herman Bernitz (South Africa) delivered three lectures and conducted a “hands-on” workshop on bite marks evidence



Fig 4.4 CDA President Dr. Hilary Cooray presenting Dr. Victor Eastmond with his CDA Past President’s badge

and forensic investigation. His first lecture was on *Child Abuse and Neglect: Differences Between Intentional and Unintentional Neglect*. The other two lectures were on *Bite Marks and the General Dental Practitioner* and *Analysing Bite Marks: Modern Trends and Common Pitfalls*.

Dr James Schneider (USA) made two presentations, the first being a demonstration of “couplers” he has designed and fabricated, to aid in the placement of multiple scales for forensic photography. His second presentation explained *Bite Plates for the Analysis of Patterned Injury Bite Marks*.

Major Paul Colthirst (USA) presented a paper on An epidemiology of child abuse and neglect and introduction to PANDA (Prevent Abuse and Neglect through Dental Awareness). In this presentation he exemplified the existing protocols that exist in reporting child abuse in the USA.

Mr Charles Leacock QC, the Director of Public Prosecution in Barbados attended most of the workshop and gave a presentation on the Legal aspects of abuse and neglect.

Dr. Peter Weller (University of the West Indies) made a presentation on Health Providers Responding To Gender-Based Violence. This gave an insight into the psychological issues of reporting cases of abuse and/or neglect.



Fig 4.5 Participants hard at work

Joan Crawford, the Director of Childcare Board of Barbados spoke on *The Role and Mandate of the Childcare Board in Relation to Child Protection*, with statistics regarding the incidence of reported cases.

Some lecturers provided information on their national issues, while a session was devoted to situation analyses on the subject, by means of presentations made by country representatives from Anguilla, Antigua, Bahamas, Barbados, Canada, Grenada, Jamaica, Montserrat, Trinidad and Tobago, South Africa, Sri Lanka and the United Kingdom.

The event importantly facilitated the opportunity of meeting diverse professionals concerned

with abuse and neglect across the world. It clearly showed that the problem of abuse and dental neglect is a universal problem especially for the dental fraternity. It was a brain storming session. The presentations made during this workshop highlighted the important contribution that the dental professionals could make in early diagnosis of these cases. The workshop addressed all aspects of neglect and abuse and gave the participants a complete and a clear picture of the problem before embarking on drafting a protocol.

Social Programme

The political and scientific sessions were supported by a vibrant social programme. On the first night the delegates were transported to Dr.

Victor Eastmond's home ("Bingen") and entertained by the Barbados Dental Association with a buffet supper (sponsored by Merck Pharmaceutical Company).

On the second night the delegates were again driven to the Plantation Theatre & Restaurant, for a dinner followed by a spectacular show which gave a Caribbean flavour to the convention. Finally, on the fourth night, those delegates remaining travelled together to the (local) Oistin's famous Friday night Fish Fry.

The event was sponsored by the Commonwealth Foundation and Global, Scientific and Regulatory Affairs of Coca-Cola, together with several regional companies who had table demonstrations. The Paloma Charitable Trust sponsored two members of the Barbados Youth Development Council to participate in the workshop.

Appreciation of the Barbados Workshop

Dr. Jerome Keens Douglas
Grenada

"I am very appreciative for having attended an activity addressing such a current topic in society today. The opportunity to have been able to absorb so much information from the lectures presented have opened up and shed much more light on the problem of abuse and neglect, as it affects and concerns dental practitioners the world over. The topics were well chosen and very well presented, making the activity for each day an interesting experience for me.

Since my exposure to the information shared at the workshop it has made me more aware of the need to be educated and clear on all that is involved in the fight against abuse and neglect, whenever it presents in our daily work. Such information regarding all aspects of abuse and neglect has now



Fig 4.6 Some of the exhibitors in the Trade Show

become necessary to be shared with all other dental personnel in Grenada, so that they can also become aware of the problem and its manifestations, and be able to join those already in the field to play their part, whenever necessary. The lectures and workshop on bite marks and their implication in solving crime is another aspect that has shown the contribution dentists can make in supporting other agencies fighting abuse. This has shown the need to seek more education in that field.

The education aspect of the workshop, as it relates to distance learning, through E- learning and webinars, has proven to be a very invaluable tool for individual and group participation in garnering continuing education. This is an avenue that I intend to expose other colleagues to in our quest for further information and topics of interest to our field.

The workshop has opened up possibilities for more networking among colleagues with so much to share, in order to be adequately informed and equipped to handle matters of that nature.

I thank you for the opportunity to attend the CDA workshop and look forward to working with you in the future."

Dr Tony Lewis

President, Jamaican Dental Association

The most beneficial aspect of the CDA/CDP meeting was the opportunity to renew the activities of the Caribbean-Atlantic Regional Dental Association (CARDAs) which will be the representative association for the entire English speaking Caribbean countries. This is most important, especially for those countries with limited manpower resources and no dental association, which require representation. The webinar presentation was most instructive. Provision for dentists working within the public sector could be made to provide for ongoing and continuing education on appropriate and timely matters."

Dr Jayanie Weeratna

Sri Lanka

"In my estimate, the convention provided a platform to every participant, the opportunity to interact with their counterpart in a vibrant spirit of camaraderie and healthy team spirit.

In my own experience of participating in similar events in the past I consider this conference unique and certainly an event that will etch my memory in the years ahead."

November 2011. The FDI World Dental Federation (FDI) has been present at all INC meetings and now works with colleagues from the International Association for Dental Research (IADR),

Mercury is an element and occurs naturally in the environment, released in the air and water through natural weathering of rock or volcanic activity. Human activities add to the background level of mercury through industrial processes, coal fired power stations, mining, waste incineration and as a particular concern artisanal and small scale gold mining. Mercury containing products can also release mercury and this is where dental amalgam fits into the picture; other products include fluorescent lights, electrical switches, batteries and medical measuring equipment. With the reduction in industrial processes using mercury, dentistry is now the third biggest user of mercury at about 300 tons a year and hence the attention that is being paid to amalgam, despite the fact that the mercury is combined in an inter-metallic compound and can be predictably recovered as a waste product.

The FDI position is that the dental profession needs to take responsibility for the environmental issue by moving to encapsulated amalgam, the use of separators in waste water systems and waste segregation and collection linked to recycling. The continued use of amalgam is necessary as other materials do not have the physical properties, the ease of placement or tolerance of adverse conditions yet. A phase down in the use of amalgam may occur; however, this should be based on the outcome of prevention programmes, reducing the need for all restorations. At the same time research should continue to develop the alternative and new materials to develop them to a state where they match or exceed those of amalgam.

The treaty is now at a crucial stage, between INC3 (Nairobi November

Clear and Present Danger to Amalgam

Dr. Stuart Johnston

*Chair, Representative Body, British Dental Association
Team Leader, Dental Amalgam Task Team, FDI World Dental Federation.*

Yes the title is a little dramatic, but I really need to get your attention to read about the consequences of the United Nations Environment Programme (UNEP) treaty on mercury.

This is an extremely complex subject and here I will only give you an overview of the process, but the consequences will be obvious to you all.

The Council of UNEP in 2007 decided that there was sufficient concern regarding mercury use and pollution that a treaty should be proposed. A process was devised that would hold five Intergovernmental Negotiating Committees (INC) starting in June 2010, with the intention of providing for a completed treaty ready for signature in March 2013. The objective of the treaty include, reducing emissions, managing mercury wastes, reducing mercury demand in mercury containing products and reducing supply. The third meeting (INC3) has just been held in Nairobi during

2011) and INC4 (Punta del Este June 2012) and progress so far has been difficult. Dental amalgam is a small part of the pollution problem and this can be well managed with care. However, there is a strong anti-amalgam lobby present at these meetings, seeking a complete ban.

Government representatives at these conferences are from environmental or chemicals departments and in the past have been a bit bemused by the noise regarding this issue.

Fortunately the recently published WHO document "Future Use of Materials for Dental Restoration" has clarified the situation that there currently are alternatives to amalgam, but these do not yet have the properties to replace amalgam. This is in line with the FDI position and has allowed the FDI to fully support this document, which has further improved our position within the INC process and marginalises the anti-amalgam lobby.

Amalgam falls under mercury added products in Article 6 of the treaty, where there are currently four proposed structures and a number of associated annexe structures.

Without going into too many complexities, the best solution for the profession seems to be to get amalgam into the main body of the treaty, as currently there is no direct replacement. The mention of prevention in the main text would be a very powerful tool for the profession when talking to governments, also this would be linked to improvements in oral health as a marker for phase down. Timelines which are envisaged in the annexes could not be applied for the development of improved or new materials, that is not the way research and development works!

It is very apparent that with the INC process, government representatives from the environment/chemicals de-

partments do not appreciate the healthcare consequences and seem to have little contact with their health departments. This is where FDI needs your help: a pack is being prepared for FDI members, to help these and CDA members lobby your health department to understand the substantial costs and manpower consequences of a move away from amalgam and to press for a move to more preventive care to reduce the need for all filling materials. The costs associated with this will cause conversation within governments that may well change attitudes.

You may think that an amalgam ban will never happen, well it has happened, practitioners in Norway were given a few days notice that amalgam had been banned on environmental grounds.

Below is a list of links to get further details of the documents listed and follow the progress on this issue:

UNEP mercury website - www.unep.org/hazardoussubstances/Mercury/Negotiations/INC3

Future Use of Materials for Dental Restoration - www.who.int/oral_health/publications/dental_material_2011.pdf

IISD reports of the INC meetings - www.iisd.ca/mercury/inc3

FDI World Dental Association - www.fdiworldental.org

DENTISTRY IN MALAWI

Dr. Jessica Jefferis
BDS (Manc) MFDS RCS (Eng)

Introduction

Welcome to Malawi, the warm heart of Africa! Tucked away between Zambia, Tanzania, Mozambique and Zimbabwe, Malawi is home to some 14 million people. Lake Malawi and the Shire [Shi-ree] River help give Malawi its special character, whilst providing fish for many precarious livelihoods.

In October 2010, my husband undertook a year-long post at Queen Elizabeth Central Hospital, Blantyre, with VSO. So that was how I, a qualified dentist, found myself in Malawi, unsure how I would spend my time.

Watch and learn

I decided to introduce myself to the Dental Department at Queen's, which is the Tertiary Referral Centre for the seven million people who live in the southern region. I spent a month observing in the department, while my registration



Fig 7.1 View overlooking the Shire River

with the Malawi Medical Council was processed.

The time spent observing proved invaluable. I listened and learned many subtleties about the department and staff dynamics. It gave me time to see patient presentations that, until then, I had only heard about or seen in textbooks.

I could see staffing was sufficient to handle numerous clinical extractions and that the Malawians were often better at extracting teeth than I was! But their equipment was meagre, with no facility to carry out surgical extractions. Even so, the atmosphere in the department was

positive and bright. Mr. Sumani, the head of the department, would often be battling with a difficult extraction using worn-out elevators and exclaim, "This is the Tooth of the Day!"

Restorative Dentistry was a completely different story. All the restorative and surgical facilities had broken down over a decade ago and no equipment had been repaired, leaving the department in a dilapidated state.

Even with such limited means, staff were dedicated to do their best for each patient. Lives were regularly saved when incision and drainage was carried out on airway-compromising dental abscesses and infected Ludwig's Angina cases.

I thought any assistance I could offer would be unsustainable and so hesitated to ask colleagues in the UK to donate consumables. Then, after a long chat with an experienced doctor at Queen's, I decided that limited help was better than none.

Small steps

Soon after arrival, I began to notice informal conversations taking place between dental staff. Thinking these exchanges would benefit from structured discussion, I encouraged the Malawian staff to organise a regular forum about departmental issues and from these I was able to generate a list of equipment that Malawian staff thought would greatly assist their work.

A number of broken dental drills appeared and I arranged for these to be sent to the UK for repair. My numerous emails to former colleagues and companies received heart-warming responses, and donations of dental equipment and consumables started to accumulate in readiness for the journey to Malawi.

Meanwhile, Gelson Kuweruza (Queen's Senior Dental Officer) went to great lengths to engage the hospital's Biomedical Engineers who repaired four of the department's ten dilapidated

dental chairs. They replaced an ancient compressor with a reliable machine capable of supplying dental drills with compressed air and water, and they installed functional dental lights. These were no small tasks! The chairs, for instance, were brought back to life after many years of disrepair.

Returning from a brief trip home in May, my husband and I brought with us 50kg of dental donations, including repaired drills. And so began the re-introduction of restorative work at Queen's for the first time in over a decade.

Following preparation and practice, it was decided that August 2011 would be the first full month for recording restorative work. The tables below provides statistics

for the first three-month period.

Was it worth it?

In the wider debate about international aid, there are those, including some in Africa, who argue against donating medical equipment to low-income countries. However, my experience shows that there are many benefits, not least giving conscientious colleagues in a resource-poor environment a welcome sense of purpose, hope and encouragement.

The University of Manchester's Dental School, where I trained, is proud to trace its origins back to the 19th century when a small group of pioneering dental practitioners concluded that they should do more to help poor people than

Table 1. Dental Fillings - Statistics for 3 month period (Aug-Oct)

Type of filling done	Number of patients treated (August - October)	
Composite / glass ionomer	44	
Amalgam	108	
Root canal fillings	19	
Scaling & polishing	21	
Temporary dressings	7	
Total number of patients	199	
Total number of extractions	5,227	
% of Restorative treatments	3.8%	
Extractions: August = 1,763 Post Op infections = 29	Extractions: September = 1,571 Post Op infections = 45	Extractions: October = 1,893 Post Op infections = 34

Table 2. Other procedures for the period August to October

Dental abscesses requiring incision & drainage (I&D) = 24	Fractured mandibles requiring fixation by wiring = 25	Marsupialization / enucleation of various cysts = 11
Biopsy specimens taken for various suspected conditions such as SCC = 6	Soft tissue injuries requiring suturing/ debridement = 15	Frenectomy resulting from tongue tie = 7
Excision of lesion (ameloblastoma) = 8	Bone tumor excision = 3	Marsupialization (ranula) = 5
Ludwig's angina requiring incision to drain exudates = 1	Splinting of teeth resulting from alveolar bone trauma/fracture = 11	Excision of lipoma = 3
Reduction of TMJ dislocation = 2	Excision (pleomorphic adenoma) = 2	Fine needle aspirations (biopsy) for suspected lymphoma = 3
Sequestrectomy = 1	Injecting alcohol (95%) around a haemangioma lesion to make it solid prior to excision = 2	

simply extract their decaying teeth, and that they needed to train and equip themselves to offer restorative treatments. Theirs, and others like them, was the vision that founded modern dentistry.

Back in Malawi in the 21st century, dentistry is simply not a priority; such is the constraint on resources, combined with the emphasis on other medical imperatives. And although the Queen's dental project is only a small step, it still demonstrates the potential contribution that dentistry can make to the general health and well-being of a population.

Others are assisting Queen's too. Malawi Health Care Support (Mahecas) - a Malawian-founded charity based in the UK - has kindly offered a suction machine.

Dentaid has generously agreed to provide a fully refurbished dental surgery tailored to a suitable space. Post installation, Dentaid will be sending one of their engineers to provide user training and, in parallel, specialist training for Queen's biomedical engineers on the repair and maintenance of dental equipment.

As many testify, it is all too easy to think that you are the one helping and yet you find yourself benefiting hugely from the experience. This was definitely true for me. My Malawian colleagues were a joy to work with, and through them I have learned a new depth of appreciation for the wealth of resources I use in general practice near Oxford. Just think of it – an efficient nurse; a dental drill and suction that work and repairs just a phone call away!

If I were to sum up our year in Malawi with just one word, I would choose "enriching". Every career



Fig 7.2 A Cyst



Fig 7.3 A patient being treated



Fig 7.4 Another patient under treatment



Fig 7.5 Dental Department meeting



Fig 7.6 New equipment



Fig 7.7 Dental laboratory

Regional Reports - East Africa

Meeting of the Committee of Dental Deans of East Africa (CODEA) and Chief Dental Officers (CDOS) at Paradise City Hotel, Dar-Es-Salaam, Tanzania, 22 November 2011

Prof. Flora M. Fabian
DDS, PhD (Anat)

Professor and Head of the Department of Anatomy and Histology, Dean, College of Medicine, International Medical and Technological University (IMTU) Tanzania

The Committee of Dental Deans of East African region (CODEA) was inaugurated on 27th October 2010 in the White Sand Hotels, in Dar-Es-Salaam Tanzania. The member dental schools include: Makerere University (Uganda), Moi University (Kenya), Muhimbili University of Health and Allied Sciences (Tanzania), Nairobi University (Kenya) and the aspiring university, the Kigali Health Institute (Rwanda). The purpose of the Committee is to "Come together and work together", particularly in the area of research, training and education in oral health in the East African region; and provide necessary African link with other regional and multi-national organizations concerned with Oral health education.

An inauguration ceremony was attended by a representative of the Finnish Dental Association and the Association for Dental Education in Europe (ADEE), one invited guest from Harvard University (USA), and a member of the Association of Dental Education in America. The endeavour is supported by the ADEE, under the "Special Interest Groups" and is sponsored by the Ministry for Foreign Affairs of Finland, through the Finnish Dental Association and Kuopio International Health Ltd.

A meeting of CODEA and invited Chief Dental Officers (CDOs) from member countries took

place in Dar-es-Salaam, Tanzania on 22nd November 2011.

This meeting dwelt on matters of partnership, exchange of staff (visiting lecturers / professors and external examiners) and students (through elective studies). CODEA and the CDOs discussed and agreed to initiate and strengthen the south to south collaboration, commended and planned the implementation of integrating Oral Health in

Non-Communicable Diseases in member countries. Areas of interest planned for Continuing Professional Development Programs among CODEA member countries were the "Knowledge Centre - IFDEA, Dental Mammoth – in Finland, and Atraumatic Restorative Care - Tanzania". In research, we have formed interest groups to write jointly for grants.

region, Dr. Sue Greening. The other speakers will be confirmed over the next few weeks.

Future Strategy Considerations

CDA members will know that, since the last Triennial meeting, the Executive has been concerned about how the Association's work can be maintained and remain meaningful in times of financial constraint and diverse local needs. We are preparing an exciting new strategy for the way forward and are planning an additional session to debate this with the membership.

Business Meeting

The meeting will also include the triennial business meeting. This will see the election of officers for the next term, and a vote on proposed changes to the constitution, including a move from triennial to biennial meetings.

Cape Town

Vibrant, diverse, colourful and captivating are just some of the adjectives that describe this beautiful city. Set at the edge of the cold Atlantic Ocean, surrounded by the Cape Floral Kingdom (a World Heritage Site) and adorned with a world-renowned landmark, Table Mountain, Cape Town offers visitors and locals a multifaceted experience.

Cape Town is blessed to have South Africa's top six tourist attractions within one hour's drive from the city centre, the Victoria and Alfred Waterfront, Table Mountain, Cape Point, the Cape Winelands, Kirstenbosch Botanical Gardens and Robben Island a short boat trip away.

Congress Venue - Cape Town International Convention Centre (CTICC)

Cape Town International Convention Centre successfully hosted approximately 2,000 events in its first five operating years. These events include international conferences, national conferences, special events, exhibitions, trade fairs and banquets ranging between 10 and 12,000 delegates



Fig 8.1 Attendees of the CODEA and CDOS meeting, November 2011

7th CDA Triennial Meeting in South Africa

Oral Health and Oral Disability in the Elderly

The CDA is pleased to announce its 7th Triennial Meeting, to be held in Cape Town, South Africa, on 3 November 2012. The meeting will be run in association with the South African Dental Association's Annual Congress, which will run from 1 to 3 November 2012.

The event will consist of a half-day workshop on a theme important to dentists and the dental team in Commonwealth countries, as well as the CDA's business meeting.

Workshop

The workshop theme this year will be Oral Health and Oral Dis-

ability in the Elderly which ties in with the overall theme of the SADA Congress, Dental Dignity for All.

Treatment of elderly patients, even in the developed world, brings its own special difficulties; in the less developed world there is an even more complex set of issues. This workshop will describe and discuss these issues and the methods dentistry can use to overcome them.

The half-day workshop on 3 November will consist of a number of presentations from experts in this field, notably the CDA's Vice President for the European

attending conferences and up to 50,000 visitors at consumer exhibitions.

Further Information

A full programme, together with a call to submit candidates for election, will be circulated in the

next few weeks. There will also be information on how to obtain financial support for attendance at the meeting, for which limited funds will be available.

We hope that the CDA workshop as well as SADA's extensive

programme will provide you with an attractive choice of educational activities and look forward to seeing you in Cape Town in November!

2012 International Scientific Convention at Kuching, Malaysia

Update

Registrations are progressing well and are increasing by the hundreds on a weekly basis. The MDA Local Organizing Committee (LOC) is confident of registering at least 2,500 paid delegates before the start of the event on the 24th of May 2012. Following a promotional tour by the presidents of NDAs of about 12 regional countries, coordinated by our event management partners *Global Research & Intelligence Network and UCSI Communication Sdn Bhd.*, the LOC is confident that the delegate participation will be further enhanced.

Congress Information

The official website for the event is at: <http://mdaez-convention.com/>. All useful and relevant information can be viewed at this user friendly homepage.

Proposed CDA Programme

The proposed theme is Transfer of Technologies Amongst Commonwealth Countries (Prevention, Promotion, Curative and Rehabilitative)

Date 25 May 2012

Time: 2.00pm to 5.00pm

2.00-2.45 pm: Key Note Speaker

3.00-4.00 pm: Group Discussion

4.00-5.00pm: Presentation of Group reports and recommendations.

The CDA will make a contribution towards the cost of travel for up to 5 male and 5 female delegates from outside Malaysia (to a maximum of £400 each).

Additionally, the LOC has agreed to offer 50 free registrations and hotel accommodations to CDA delegates.

In summary:

1. Subsidised travel for up to 5 male and 5 female delegates.

2. Complimentary registration for

these 10 delegates and 40 more.

3. Complimentary hotel accommodation for these 50 persons on a twin sharing basis (25 rooms) for 3 days, with check-in on 24th May and check-out 27th May 2012. Additional charges will be applied for conversion to single occupancy.

4. 50 invitations to the official Grand Opening Ceremony on 25th May 2012

Applications for the aforementioned complimentary benefits will be on a "first-come, first-served basis". They will be coordinated by the CDA secretariat and applications must be made by 28th February 2012. Please email: administrator@cdauk.com

EDUCATION - Reflective Learning

Adapted from a lecture given by Professor DYD Samarawickrama in Sri Lanka in 2009

Introduction

The classroom is not an isolated and a sanitised place but a reflection of the society outside. It is inhabited by a dynamic and a heterogeneous mix of students brought together by a common purpose of learning. Or is it? Some are keen to learn but there are others who follow their own agendas. A good teacher has a unique approach to educating this group.

A Good Teacher

Mathematics for a good teacher is not a question of numbers, equations or square roots but one of logical reasoning and deduction. In arithmetic, a good teacher can show that the whole is greater than the sum of its parts. Algebra can show how different values can be expressed in an equation. In geometry, a pattern, certain symmetry, among a confusing collection of lines, squares and triangle can be highlighted. All these put together, a good teacher can build a pyramid of values and norms that can be applied to everyday tasks, be it buying goods, making friendships or building nations.

In order to gain good A-level grades and gain entry to a University, students cram information to be regurgitated without any understanding. Students want maximum results with minimum effort; nothing wrong in conserving energy if done with clarity of purpose and understanding.

Examinations

All over the world, entry to universities is very competitive. In addition, many countries publish school leagues tables annually. One of the indicators used is each school's successes at GCSE and A level examinations or their equivalents. Therefore, there is pressure on the schools to make sure that their students do well at examinations. This has

had a detrimental effect in that preparing students to achieve good examination results has become a prime objective. It has also encouraged some schools to point students in the direction of subjects in which better grades can be achieved more easily. One might say that examinations are driving school education and student learning and that the league tables are dumbing down the quality of education.

There is nothing wrong in preparing students to pass examinations. However, it has become an end in itself. The students are encouraged to learn by rote merely to gain a good mark and not to understand the subject.

Education

However, education has also to be about understanding the subject matter. One does not have to look far: in engineering, medicine, dentistry, geography, economics and many other disciplines, complex problems have to be solved, be they biological, clinical, scientific or technical for a successful outcome. Without understanding, application of knowledge to solve problems is difficult.

At a political level, there has to be a change. Gaining entry to a university should not be the only avenue open to a school leaver. There should be several pathways open to the young to gain skills in demand in the market place. There should be a variety of vocational opportunities leading to gainful employment. Not everyone should be or can be a doctor, a dentist, engineer or an economist. Furthermore, not entering a university should not be made to look like a failure because that will lead to a large number of dynamic young people with potential feeling frustrated and demoralised. There are many who left school at a young age, did not

have a university education and yet became very successful.

At educational level too, there has to be a change: how does one promote understanding as opposed to rote learning? How does one break away from this vicious cycle of rote learning, passing examinations, more rote learning and more successes at examinations?

The answer lies in reflection and more specifically, Reflective Learning.

Reflection

It is a form of personal response to experiences, situations, events or new information. One might look at it as a 'processing' phase where thinking and learning take place.

Reflection has an important role to play in learning and self-development. There are some key elements of reflection and learners need to decide on their preferred ways. Reflection could be described as

- Thinking with a purpose
- Being critical, but not negative
- Analyzing how effective one's learning is
- Questioning and probing
- Making judgments and drawing conclusions

Purpose of Reflection

We have to see reflection as complementary to our study. We can use it to clarify our thoughts and focus on our development and record our thoughts on any difficulties or challenges we are facing. It can also help us think about any strategies that might help us deal with difficult tasks or assignments and use it to help us think about how the course topics relate to other areas of our experience.

Reflective Learner

It is important that we encourage students to make time to reflect

on how they are doing with their studies. They need to take some time to ask themselves the following questions on a regular basis:

- What have we learned recently?
- Are we using the appropriate study techniques for the task in hand?
- Do we have the right attitudes towards our learning?
- How motivated are we towards learning?
- How could we improve our learning?

Like many other aspects of studying, reflective learning is highly individual. There's no guidebook on how or when to do it. Rather than thinking of reflection as yet another task to be added to the 'to do' list or squeezed into a busy study schedule, it could be viewed as a process that can be practiced at any stage. We have to think about what it means to be a learner rather than what we actually do as a learner. The emphasis is on being a reflective learner rather than doing reflective learning.

As reflective learners, we should think about how we can use new knowledge and skills in our future activities – so learning is always linked to action, and theory to practice. It's also useful to reflect on how one learns best. This may be through private study, networking with peers, formal courses, mentoring, or a combination of techniques.

Reflecting on what works well in our studies helps us to develop our skills, as we try out different approaches and review their effectiveness. It is easy to become stuck in a study routine that is not effective for the task in hand. Thinking about our own skills and being aware of those we tend to use may help us to:

- See how we might make changes
- Develop new ways of working
- Become more aware of the

different techniques we could devise.

At the same time, the teachers have to guide learners to get used to reflecting on their experiences as part of their everyday learning. In this way, each experience - whether positive or negative - will contribute to their development and personal growth. An experience that is repeated without reflection is just a repetition, which does not help anyone to learn. The learners can record their reflections in a learning diary or journal.

Benefits of Reflective Learning

Reflective learning helps learners to accept responsibility for their own personal growth. It can help them see a clear link between the effort they put into their development activity and the benefits they get out of it. It will help them see more value in each learning experience by knowing why they are doing it and what's in it for them. Finally, it will help them to 'learn how to learn' and add new skills over time.

Reflective learning demands that the learners recognise that they bring valuable knowledge to every experience. It helps them therefore to recognise and clarify the important connections between what they already know and what they are learning. It is a way of helping them to become active and critical learners.

Frequency of Reflection

Reflection should become a routine part of working life that is more or less instinctive. If we see learning as an intrinsic part of our job, we don't have to interrupt our work to do it. People who routinely plan, record and reflect on their learning tend to see more opportunities for personal development. It's a matter of capturing the moment. The world becomes a richer, more stimulating place when we embrace reflective learning, because we switch on a kind of intuitive radar that's tuned to pick up useful opportunities for personal development and growth.

Learner Profiles

However, introducing reflective

learning into the classroom is not easy. I stated at the beginning that the classroom is a heterogeneous place full of individuals with their unique personalities. In my forty years' experience as an academic I have come across many types of learners. Here are a few as a reminder of the challenges we face in the classroom:

Caring type

- They care about people, plants, animals and the earth. They help others and look after the environment. Friends of the Earth, one might say.

- They show sensitivity towards the needs and feelings of others, and are able to be part of a community of learners.

Communicating type

- They can share their ideas with others in many ways. They also listen to others

- They engage in conversation, manage social interactions, and expresses thoughts through writing and drawing.

Inquiring type

- They are curious and enjoy learning. they try to find out new things

- They show interest in the world and ask questions.

Open-minded type

- They listen to other people and respect their ideas.

- They are open to new experiences and to the beliefs and ideas of others.

Reflective type

- They think about their own work, know when they have done well, and when they could have done better.

- They are able to think about their behaviour and if necessary, work on some strategies for change.

Thinking type

- They think carefully and show initiative. They make good decisions and are problem solvers.

- They develop understanding of

cause and effect, sort and classify and show interest in big ideas.

Well-balanced type

- They look after their mind and body and try to stay healthy and happy.
- When they work alone and in groups, they can control their feelings in dealing with other people; and engage in a balance of quiet and dynamic activities, and gross-motor and fine-motor skills.

Therefore, it is important to recognize learning styles of our learners. As facilitators of learning, we need to tailor our teaching styles to suit each learner. There is no such thing as "One size fits all" in education. The challenge is to teach such a mixed group effectively. One effective way to meet this challenge is not to try to teach but to facilitate learning and to give them the responsibility for their own learning using their own learning style. Perhaps, therein lay our effectiveness as teachers.

Reflective Teacher

We should see teaching as a social interactive process. We have to be at different times a teacher and a learner and as a result, both shape and be shaped through our interactions with learners and with our professional colleagues. We must reflect on the impact of our presence in this group of learners, and the extent to which we are a contributing member of a faculty primarily concerned with the education and development of learners.

We live in a multi-cultural society. As such, learners bring multiple social and cultural characteristics to the classroom. Reflection on learner differences will enable us to more clearly understand learners and their many pathways to learning. We should be able to recognize the importance of social and cultural influences on learning, construct ways to utilize differences to enhance learning, and incorporate learner's experiences into the curriculum. In this way, we should be able to

motivate and educate a broader spectrum of learners.

Life Long Learning

It is not readily obvious that Reflective Practice promotes life-long learning. As stated previously, we need to make it a habit to reflect on what we have just done. Why did we do it? How did we do it? Did it all go as expected? Why not? All these questions need to be asked and answered. How can we improve the outcome next time? It does not matter whether we are administrators, doctors, engineers, surgeons or teachers. It does not matter what vocation we are engaged in. By reflection, we discover the shortcomings and try to remedy the situation by new learning. This is how we develop ourselves. If we continue to develop ourselves in this manner, success is within our grasp. The society too progresses as a result of our individual successes. If you disbelieve me, just reflect on the achievements of the likes of Bill Gates of Microsoft and late Steve Jobs of Apple and other similar individuals, to recognise how their successes have helped propel America to its leading position in the world today.

Introducing Reflective Learning

This is not an easy task. A policy decision has to be made at a high level and teachers need to be trained so that they become facilitators of learning. There has to be a major change so that the learners are made to realise that they have to take responsibility for learning guided by their facilitators. The examination system needs to change too, so that the depth of understanding is tested rather than volumes of information per se. I understand that in some disciplines, this is happening already. That is encouraging. In addition, school leavers need to be presented with a wide range of options, all highly rated and well thought out, to undertake further education. University education should only be one of many options.

Conclusions

Over the years, I have changed my emphasis from teaching others to facilitating learning and enquiry. My approach is to encourage the learners to take responsibility for their own learning. Reflective Learning equips them to achieve this.

Education is the best gift one can give. Once acquired, education cannot be damaged or stolen either.

CDA Contacts



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CDA Administration

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CDA Secretary Matters:

please contact the Executive Secretary, Dr Sam Thorpe at: Sam.Thorpe@cdauk.com

Financial Matters:

For subscriptions, invoices and other financial matters, contact the CDA Treasurer, Dr Anthony Kravitz at: Anthony.Kravitz@cdauk.com

Communications:

For website and contacts database updates, contact: Mr David Campion at: David.Campion@cdauk.com

CPD Programme in the Seychelles

Professor Samarawickrama conducted a Continuing Professional Development Programme in Seychelles in November 2011.

The programme was intended for dentists, dental therapists and dental nurses and consisted of

lectures and demonstrations.

He was accompanied by Mr. Andrew Quayle of Quayle Dental Manufacturing (Export) Limited, UK. The same company sponsored the whole programme very generously. The attendees were very appreciative of the opportunity

to update their knowledge especially as such opportunities are rare in Seychelles.

Professor Samarawickrama took the opportunity to discuss matters of mutual interest with Dr. Wix Cupidon, Chief Dental Officer, Seychelles and others.



Fig 12.1 An attentive audience!



Fig 12.2 Prof. Samarawickrama giving a demonstration



Fig 12.3 Prof. Samarawickrama pauses to answer a question



Fig 12.4 Prof. Samarawickrama (right) with Mr. Andrew Quayle (left) and Dr. Wix Cupidon (centre)

CONTACT INFORMATION

CDA uses electronic information as its primary means for communication so it is important that it has an up to date record of E-mail addresses. People do occasionally change their E-mail address so please keep us up to date with yours.

Please use the following E-mail addresses for formally contacting CDA:

Secretary@cdauk.com
 Treasurer@cdauk.com
 Membership@cdauk.com
 Bulletin@cdauk.com
 Administrator@cdauk.com
 Webmaster@cdauk.com

Please circulate this Bulletin to your colleagues.

It can also be found on the CDA website at:
www.cdauk.com

BIOTECHNOLOGY

Embryonic and Adult Stem Cells in Dentistry and Medicine

Based on a lecture given by Dr. Thomas B. Nyambo MD, Department of Biochemistry, School of Medicine, MUHAS, Tanzania

Introduction

Stem cells are primitive, i.e. they are undifferentiated and are capable of developing into the entire 220 cell types that are found in the human body. During embryonic development at around day five, a blastocyst develops with inner mass cells that are capable of developing into the entire organism. Such embryonic stem cells are called totipotent. With further embryonic development, the potency changes to pluripotent stem cells that can differentiate into nearly all cells which further downgrades to multipotent stem cells which are capable of differentiating into a number of closely related cells such as what we see in the haemopoietic system. Down the line, the potency degrades to oligopotent stem cells that can differentiate into only a very closely related cells and finally to unipotent cells that can produce only one cell type: their own. Thus the cells that have various levels of degraded potency that occur in many tissues serve as a sort of internal repair system, by replenishing other cells to keep organs functional thus maintain life. These are the adult stem cells, the type of pluripotent stem cell derived from the inner cell mass (ICM) of the blastocyst called Human Embryonic Stem Cell (hESC) and are the main area of controversy by ethicists.

Stem cell are being grown in the laboratories and this is the main corner stone area of stem cell research because they can be manipulated and in this way scientist can learn about disease development process, means to cure and also study how genes can be 'engineered' to produce designed phenotypes. Stem cell research is one of the most fascinating, and fast growing areas of contemporary biochemistry,

cell and molecular biology. The stem cell research race in dental sciences is equally advancing fast. In 2000 dental stem cells were discovered at the NIH. Dental stem cells are adult stem cells (not embryonic stem cells) found in both baby teeth and wisdom teeth.

Dental stem cells have been shown to be able to differentiate into bone, dental tissue, cartilage, and muscle, and there is even evidence that they may be able to differentiate into neural tissue. dental pulp stem cells (DPSCs) and periodontal ligament (PDL) stem cells are being studied for applications in regenerative dentistry. The first human applications of dental stem cells have been in regenerative dentistry in the areas of re-growing jaw bone, treating periodontal disease, replacing damaged tooth structures, bone regeneration, treatment of neural tissue injury and treatment of neuro-degenerative diseases. Perhaps another new and exciting area in dentistry is extraction and banking of stem cells from patients coming to have deciduous or permanent teeth extracted. Instead of discarding these teeth as waste, Store-A-Tooth isolates potent stem cells from these tissues for the patient's potential future dental health. The list is endless.

Being a young science and given the fast pace of growth the stem cell research is undergoing, undoubtedly many scientific questions arise as rapidly as new discoveries come by. In 2006, researchers made a breakthrough by identifying conditions that allow some specialized (programmed) adult cells to be "re-programmed" genetically to assume a stem cell-like behavior, a phenomenon referred to as induced pluripotent stem cells (iPSCs).

Perhaps at this juncture one

may pose a question: what are the driving forces in stem cell research? While the list may be fairly long there are major forces. Medical and dental care in many cases is faced with lack or scarcity of organs. Need for organs and the problem of organ rejection has made scientists to research for custom tailored "human spares". If the patient's own gene is defective the defective patient gene (DNA) can be "repaired" in the laboratory by taking patient's own adult stem cells, repair the defective gene and return the 'engineered' cells back into the patient body. Alternatively, the patient's own embryonic stem cells with normal gene can be transformed into the tissue of interest and treat the patient. More than million bone grafts are performed annually in the West to regenerate bone lost to trauma or disease, half of these relate to the face and the mouth. These cells provide the prospect of restoring dental tissue such as dentine, cementum, and periodontal ligament. Dental implant relies on the ability of bone to interface with metal (usually titanium). Dental scientists are eyeing the development of enamel-like bio-materials. The answer lies in stem cell research. Dental stem cells have been shown to be able to differentiate into bone, dental tissue, cartilage, and muscle, and there is even evidence that they may be able to differentiate into neural tissue. Dental pulp stem cells (DPSCs) and periodontal ligament (PDL) stem cells are being studied for applications in regenerative dentistry and medicine.

Another driving force for stem cell research is linked to reproductive health. An infertile couple may seek to get anonymous donor sperm and through IVF a progeny through. Whether a germ cell

comes from one of the partners or not, for purpose of reproduction this is called sexual cloning. If the blastocyst is destroyed for the purpose of making spares¹ this is called therapeutic cloning. Perhaps it will be appropriate here to describe how the embryos are obtained from a prospective woman.

The prospective woman will be given hormones that result in the development, growth, and maturation of eggs in ovaries. Without hormonal manipulation, a woman normally produces one mature ovum monthly, alternatively from each ovary. In this type of manipulation, more than 20 ova are produced. About 20 mature ova from the woman's ovaries are extracted, than fertilized with sperm, typically from her husband or an anonymous donor. The ensuing embryos are cultured in media inside a special incubator which encourages their growth. Normally two to four healthy-looking embryos are selected and implanted in the woman's uterus. The reason of implanting more than one ovum is to increase the success of conception but there is a risk of quadruplet births. The remaining 16 or so surplus embryos are disposed or cryo-preserved for future use. If some genetic manipulations are carried in the blastocyst such as introducing some genes using viral vectors or silencing some genes so that a certain phenotype comes forth, this is called eugenics and such babies will be called "designer babies". In embryo splitting, the blastocyst can be split in two and the other half can be cryo-preserved for future use particularly if the implanted sibling shows some remarkable phenotypes that the parents like. This will therefore be a delayed identical twin of the first sibling. With permission of the parents, it can be used by another couple with or without cost. Alternatively this blastocyst can be used as a source of spares for the sibling.

If one so wishes, the nucleus of just fertilized ovum (diploid)

can be removed and replaced with a nucleus of a somatic cell (diploid) from an adult who wants to clone one self². If implantation is successful and pregnancy comes to term, then this sibling will be a delayed identical twin of the nuclear donor who could be in his /her seventies.

A somatic cell can be manipulated by short electrical pulses or chemokines and become re-programmed and behave as a stem cell. This process is called perthenogenesis and has been attempted in pigs. On implantation, the placenta does not develop well and the embryo loses viability.

Where as much of the techniques that have been mentioned above are at animal model level in the laboratories, it is worth mentioning that there is potential for human use and that many countries particularly the developing ones have no policy at hand to regulate stem cell research activities.

The Ethical Issues

Potentially, millions of patients could benefit from stem cell therapy which will undoubtedly increase human egg demand. This may lure healthy young women to jump into this potentially lucrative trade of selling human egg to the medical and dental industry. Moral/ethical questions surround the trading in human eggs, e.g. life will be treated just like another commodity. Another contentious area is the question of when life enters into a fertilized embryo. Therapeutic cloning destroys blastocysts which is normally referred to as pre-embryo. Does this tantamount to murder? Some scientists have extended the term "pre-embryo" to 14 days when a primitive streak has been formed in an already implanted embryo. There are difficult moral and scientific questions that relate to blastocyst destruction. For example, one may ask "Does life begin immediately at fertilization, or a little bit later in the womb, or right at birth?". Is a human embryo equivalent to a human child or something far less human?

Does a human embryo have any rights? This is a moral question of autonomy in which case does it have right to informed consent? One may go further and ask if the destruction of a single embryo is justifiable if it provides a cure for a countless number of patients? The principle of beneficence becomes very vivid here.

What is the logic of destroying life to make spares for serving other life? Some ethicists go further and wonder whether these developments will benefit the medical industry. People consider creation of "designer babies" as playing God. Normally, children do not blame their parents for their genetic traits but if all does not go well who will the "designer baby" blame? The scientist, parents, governments or what?

If stem cell research happens to manage to slow down the aging process so that people live an average of 300 years, how will human beings relate to themselves in the society? What about over-population of an already resource depleted planet?

A number of legal issues have arisen in different parts of the world with regards to surrogacy. Who really owns the child, the biological parents or the surrogate mother? Another area of contention is age of parenthood. If a man of 80 years for example, decides to clone himself, is there likelihood of him offering proper parenthood and for a long time enough until this delayed identical twin reached the age of majority?

One of the common side effects of hormonal manipulation of the female reproductive system is Ovarian Hyper-stimulation Syndrome (OHSS) which predisposes women to a number of reproductive system malignancies. Any patient or volunteer undergoing ovulation induction is at risk of developing OHSS. Some patients get severe OHSS which is a life threatening complication following ovarian stimulation.

Conclusions

Stem cell research is a very young science and long-term effects have not been studied or declared safe to use on a large scale on otherwise healthy women.

The potentials of stem cell research are many and obvious but the ethical issues are challenging. This calls for vigilance by society, religious leaders, scientists and governments. Logically, having regulatory authority in place will allay anxiety of the society and at the same time allow scientists to explore the good and promising potentials of stem cell research.

References

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CDA WEBSITE



The CDA website provides a facility for the dissemination of information to all the Commonwealth dental associations and includes access to the former CDA Newsletters and subsequent Bulletins.

The website also contains articles of relevance to the CDA, a Who's Who of the current Executive Committee and, importantly, contact information for CDA and its officers.

Whereas previously the CDA had a large number of Newsletters

and Bulletins printed and posted to Commonwealth Associations, the cost of printing and distributing has been saved by only making the Bulletin available on the web and by email.

The printing costs saved are now used to further the CDA's other objectives and compensate for the increasing difficulty of attracting support grants in the current financial climate.

The CDA Executive wishes to remind associations that the CDA

website is being used for information and announcements so they should make a point of visiting it from time to time. If they wish to be notified by E-mail of any new information put on to the website then they should send CDA the E-mail address of the person to be notified. The E-mail should be sent to:

webmaster@cdauk.org

The CDA website address is:
www.cdauk.com