The future of orthodontics in Hong Kong

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Dean’s Message

Your partners in life-long learning
By Lakshman Samaranayake, Dean

Welcome to the second issue of Expressions — our faculty newsletter, which we hope you look forward to receiving. The inaugural issue had an extremely warm reception, and we thank all our friends and colleagues, both at home and abroad, who sent good wishes.

Programmed for success
This issue focuses on orthodontics and includes an article on life-long learning in this highly sought-after specialty.

In fact, the HKU Faculty of Dentistry provides local and international students with a whole array of postgraduate and continuing education programmes, which we believe are integral to our educational mission. Evaluating success, responding to the needs of dental practitioners in the community, and improving programme offerings are important components of that effort—which is why we are introducing a new Masters programme in Implant Dentistry this September. Details of the MSc(Implant Dent) course are available at the faculty website at <www.facdenthk.org/postgraduate_prospectus.htm#msid>.

Remember to check the faculty website <www.facdenthk.org> for details of our other courses and programmes.

Weekly maintenance
The faculty also keenly supports dental professionals in their pursuit of mastery, by holding a series of Oral Health and Science Seminars every Wednesday evening. These have proved to be very popular, with an average weekly attendance of some 100 dental practitioners and students. One of the goals of having this seminar series is to build relationships with the dental community and to foster a lifetime of quality learning and personal growth. Such mastery will lead to proficiencies that will improve the delivery of dental care to patients and heighten the standing of the dental profession within the wider community. If you have not already done so, why not try out a seminar and kick-start your routine to life-long learning?

Something for everyone
Finally, Expressions is your newsletter, and we hope there is something for everyone in this issue, including an informative Patient Page to enhance patient and community outreach. Please pass on your copy to your staff, family, and patients, and do let us know if you have any news or ideas for inclusion in a future issue, by e-mailing <tlane@hkusua.hku.hk>.

Happy reading!

Don’t forget your regular check-up...

@ www.facdenthk.org

for
- News and announcements
- Career development
- Course details and registration
- Notices of professorship vacancies
- Updates on the faculty’s 2007 Silver Jubilee

Expressions is published three times a year by the Faculty of Dentistry. The University of Hong Kong, for its faculty, staff, students, alumni, affiliates, and friends. News items, announcements, details of meetings, congress coverage, articles, comments, and feedback are welcome. Please e-mail <tlane@hkusua.hku.hk>. Inclusion is not guaranteed and submissions may be edited.

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FACULTY OF DENTISTRY
THE UNIVERSITY OF HONG KONG
Celebrating 25 Years of Excellence
Out and about

A team from the HKU Faculty of Dentistry took to the streets of Hong Kong in early 2006 to educate the general public about oral health care and to promote the faculty and its dental hygiene courses. The roving exhibition was held in Central Plaza, Wanchai, between 9 and 13 January and in the Island Resort Mall, Siu Sai Wan, on 14 and 15 January.

The team of first-year dental hygiene students, led by Ms Cordelia Chan, Tutor in Dental Hygiene, demonstrated to passers-by the proper use of widely available methods of mechanical plaque control, such as toothbrushes, floss, and interdental brushes. In addition, poster boards highlighted the role of the faculty in professional dental education in Hong Kong and presented simple public education messages on oral hygiene.

“The response from the public was good and many people were keen to go out and buy the devices we promoted,” says Ms Chan.

The faculty thanks sponsors Sino Group, Sensodyne, and Oral-B for contributing to the success of the roving exhibition, which organiser Prof Tak-wah Chow, Associate Dean for External Relations, hopes will be a regular event.

Congress on tobacco-induced diseases

According to the World Health Organization, use of tobacco, including smokeless tobacco, is a major cause of oral cancer, as well as periodontitis and tooth loss. The HKU Faculty of Dentistry will do its part in preventing tobacco-related oral diseases by co-hosting the 5th Annual Conference of the International Society for the Prevention of Tobacco Induced Diseases on 24 to 26 November 2006, with HKU’s Department of Community Medicine and Department of Nursing Studies.

The 3-day event will cover several themes in the prevention and management of tobacco-induced disease, including medical, dental, nursing, legislative, and fiscal aspects. The programme places a strong emphasis on the implications of smoke-free policies and the treatment of tobacco addiction. Furthermore, a workshop titled ‘Treatment of Tobacco Dependency’ will be held after the meeting, on 27 and 28 November 2006.

Details about the conference, including programme, registration, abstract submission, and post-conference workshop, can be obtained from <www.hku.hk/tid>. The website of the International Society for the Prevention of Tobacco Induced Diseases — an independent, not-for-profit academic, scientific, and humanitarian organisation — can be found at <isptid.globalink.org>.

News bites

- **Silver jubilee celebrations**: The HKU Faculty of Dentistry turns 25 next year and will celebrate the occasion with events throughout 2007, including the 20th Annual Scientific Meeting, special lectures and exhibitions, alumni events, a silver jubilee concert, and a gala dinner. The main event of the year will be the Second International Conference on Evidence-based Advanced Dentistry, to be held on 16 to 19 November 2007. Please mark the date in your calendar.

- **Silver jubilee souvenir book**: A commemorative book will be published to celebrate the faculty’s 25th anniversary next year. Readers who would like to share their experiences, reminiscences, and photographs relating to the history of the faculty in the past quarter of a century are welcome to e-mail <tlane@hkusua.hku.hk> by 1 December 2006.

- **Pandemic preparation**: Although H5N1 avian influenza has so far not proven to be widely contagious among humans, the Government of the Hong Kong Special Administrative Region, like many governments worldwide, has formulated prevention strategies and contingency plans in the event of a pandemic. Information for health care professionals is available from the influenza page of the Hong Kong Centre for Health Protection website at <www.chp.gov.hk>, and from the government avian influenza website at <www.info.gov.hk/info/flu/eng> in English or <www.info.gov.hk/info/flu/chi> in Chinese. Information and recommendations for the local community are also available at those sites.

- **Community Health Projects go online**: Reports of Community Health Projects written by HKU Faculty of Dentistry students as part of the BDS course will now be available online from the HKU Library website. More than 140 past reports have been digitised and can be downloaded from the Dental Library through the webpage <lib.hku.hk/derlib/e-resources.html>. To find out more, e-mail Sam Lee, Dental Librarian, at <yclee@hkucc.hku.hk> or Tel: 2859 0336.

- **A change of taste**: Following a proposal from Prof Brian Darvell, Professor in Dental Materials Science at the HKU Faculty of Dentistry and member of the HKU Safety, Health, and Environment Committee, banquets and meals of both internal and external official functions at HKU will no longer include shark’s fin on their menus. HKU is the first university in Hong Kong to take this step in response to experts’ urgent warnings of shark extinction.
The HKU Faculty of Dentistry recently installed a specialised camera system to allow 3D imaging of patients’ faces. By helping surgeons plan treatments and accurately predict surgical outcomes, this technology promises to transform oral and maxillofacial surgery in Hong Kong.

The facial profile could be regarded as one of the most important concerns of every single person. Surgical procedures such as those used in orthognathic, orthodontic, and prosthodontic treatment could change a person’s facial profile, so very careful assessment and planning are needed.

Currently in much of the world, changes in the soft tissues of the face can be visualised in 2D profile only, thereby limiting benefits to patients who present with a deformity in the frontal plane (e.g., facial asymmetry). Hence, there is an ongoing interest in harnessing the power of information technology to advance facial analysis and surgical simulation from the 2D to the 3D level.

An extra dimension
To perform a 3D facial assessment, it is first necessary to capture the 3D image of the facial profile. The basic requirements of such an imaging device include a very short capture time, high accuracy and reliability, photorealistic texture, an ability to capture all skin colours, and minimal invasiveness.

Four techniques are available for 3D surface capture: computed tomography, laser scanning, imaging with ‘structured’ (angled) light, and a special type of photography known as stereophotogrammetry. With the assistance of the University and Faculty Development Fund 2005, the faculty installed a stereophotogrammetry system called 3dMDface (3dMD, Atlanta, Georgia, USA) in November 2005 to enhance its oral and maxillofacial surgery services at the Prince Philip Dental Hospital.

Fine features
The 3dMDface imaging system is designed to record digitally the external 3D conditions of faces in a medically accurate way. Six cameras (three either side of the face) cover 180° and are synchronised to capture all the necessary information in less than 2 ms in a single shot—before the patient has a chance to make any large head or facial movements. The computer automatically merges the data to produce a single 3D reconstruction of the facial surface as a mesh of up to 60,000 polygons. The final image has a photorealistic texture and submillimetre accuracy, which make for high-quality facial analysis, accurate planning of surgical management, and good prediction of soft-tissue outcomes.

Face value
Thanks to this upgrade in surface-imaging technology, we have already started making some improvements to our clinical service and research, and patients have begun to benefit from the direct, real-coloured 3D visualisation of their facial condition.

In addition to these immediate advantages, we can now monitor how facial soft tissue responds to treatment by conducting volumetric analysis of the 3D surface rather than by comparing multiple 2D photographs. Several research projects have also been initiated in various fields, including facial anthropometry, longitudinal assessment of patients with craniofacial deformity, and orthognathic surgical planning and prediction. Our ultimate aim is to set up new tools to accurately predict 3D craniofacial soft-tissue changes following treatment.

Dr John Lo is Assistant Professor in Oral and Maxillofacial Surgery at the HKU Faculty of Dentistry. E-mail: <drjohnlo@hku.hk>.

European study aid
The Dean of the HKU Faculty of Dentistry will assist the European Community in its research into autoimmune polyendocrine syndrome type 1 (APS 1), concentrating on the chronic candidal infections often seen throughout the skin and nails of patients.

Using a ‘gene knockout’ mouse model developed in Europe and a grant of €6 million (HK$28 million), Prof Lakshman Samaranayake and his team will investigate how the normally harmless Candida fungus becomes pathogenic and sometimes fatal.

More common in Europe than in Asia, APS 1 is a rare childhood genetic disorder that leads to multiple diseases such as chronic mucocutaneous candidiasis, hypoparathyroidism, Addison’s disease, and autoimmune hepatitis.
Meeting Reports

A right pair: periodontics and orthodontics

Providing both periodontic and orthodontic therapy in the same patient can greatly enhance oral health and aesthetics in a mutually beneficial way, concluded Dr Li-jian Jin at a Faculty Oral Health and Science Seminar on 1 March 2006.

Dr Jin, Associate Professor in Periodontology, explained that advanced periodontitis can involve pathological tooth migration, including labial flaring, irregular spacing, rotation, and extrusion of anterior teeth. Conversely, orthodontic patients may need surgical exposure of unerupted teeth, alveolar ridge augmentation, frenectomy, supracrestal fiberotomy, dental implants, or crown-lengthening surgery. Gingival conditions such as margin discrepancies, missing papillae, or a gummy smile may especially require treatment from the two specialties.

However, Dr Jin cautioned, a predictable and satisfactory treatment outcome needs great coordination of care between the two disciplines, as well as an assessment of risk factors such as existing health conditions, unresolved existing periodontal diseases, smoking and other habits, poor compliance, hypermobile teeth, and occlusal trauma. Furthermore, dental health education, oral hygiene instruction, and long-term maintenance are vital to success.

Using grapefruit to form bone? Faculty adds zest to Science Museum programme

Two orthodontists from the HKU Faculty of Dentistry have been invited by the Hong Kong Science Museum to take part in a series of events this summer to inform the local public about their recent discovery that in vivo bone formation can be triggered by naringin—the substance that gives grapefruits their distinctive bitter taste.

The ground-breaking research, conducted by Dr Ricky WK Wong and Prof Bakr Rabie, was chosen through a public voting system from among 16 projects submitted by local universities in a competition held by the Hong Kong Science Museum.

As reported in the last issue of Expressions and the March issue of the journal Biomaterials (2006;27:1824-31), the two researchers found that collagen sponge plus naringin was able to stimulate bone production in parietal bone lesions made in rabbits — and it did so to a significantly greater extent than either bone grafts or collagen sponge alone. Furthermore, naringin was more effective than the anticholesterol drug ‘statin’ at inducing bone formation, even though they both affect the same metabolic pathway.

The search for non-toxic materials to reproduce the effects of bone grafts has been a challenge for scientists, and these findings indicate that collagen plus naringin could indeed be such an effective bone graft replacement. An especially attractive feature about this option is the wide availability of naringin in grapefruit and other citrus fruits.

Dr Wong and Prof Rabie will present their findings in August as part of the Hong Kong Science Museum’s public education initiative called ‘Science News Corner’. Planned events include a 4-month exhibition on the second floor of the museum and a series of public lectures. Keep your eyes peeled for notices giving more details about these public events, on the faculty website <www.facdenthk.org> and the Hong Kong Science Museum website <hk.science.museum>.

Dental appointment for physicians

A half-day symposium was held on 19 March 2006 by the HKU Faculty of Dentistry and the Hong Kong College of Family Physicians as an opportunity for faculty staff to update more than 150 medical colleagues on the latest developments and trends in dentistry. The meeting began with welcomes from Prof Grace Tang, President of the Hong Kong Academy of Medicine, and Dr Stephen KS Foo, Past-President of the Hong Kong College of Family Physicians. Six lectures were then delivered by Prof Nigel King and Drs Gordon Chiu, Li-jian Jin, Alex Chan, Colman McGrath, and Richie Yeung. All attendees said that the lectures were excellent and the dental update would enhance their medical practice. The symposium was sponsored by Pfizer Corporation Hong Kong Ltd.
The balancing act behind biofilms

How microbes form biofilms in the mouth is a matter of balance, and the simple step of incorporating an effective mouthwash into the daily mouth-cleaning routine can successfully prevent biofilm-related oral diseases. These were among the messages to the faculty from Prof John G Thomas, Director of Microbiology and Virology at West Virginia University Hospitals, and Professor in the Department of Pathology and Periodontics at the West Virginia University Schools of Medicine and Dentistry, USA.

Speaking at a seminar on 11 April 2006 at the Prince Philip Dental Hospital, Prof Thomas explored the science behind biofilm development and the link between oral and systemic disease. In particular, he described the biological processes that upregulate the production of harmful biofilm phenotypes of microorganisms in the mouth, citing eight key environmental and cultural factors that influence the structure and composition of biofilms. Ultimately, the onset of biofilm-related disease occurs when the balance is tipped towards a greater population of harmful microbiological species over resident ones in the oral biofilm.

Habits for healthy habitats

To prevent biofilm-associated oral diseases, maintaining good oral flora is paramount. According to Prof Thomas, brushing teeth may not be enough, and the adjunctive use of an antiseptic mouthwash, such as Listerine, has been found to be effective in controlling biofilm-related oral diseases for the whole mouth. In fact, the simple steps of oral hygiene—brushing, flossing, and rinsing with an effective mouthwash— are well established, but, Prof Thomas noted, too many people do not follow this dental advice and this accounts for the high prevalence of inflammatory gum disease among adults.

Titled ‘Oral Biofilms: Architects of Disease, Head to Toe’, the seminar was part of the HKU Faculty of Dentistry’s ongoing evening CME lecture series, and was sponsored by Pfizer Corporation Hong Kong Ltd as part of its educational programme to promote oral and systemic health in Hong Kong.

Save the date, come celebrate

The HKU Faculty of Dentistry will hold its Second International Conference on Evidence-based Advanced Dentistry on 16 to 19 November 2007 as part of the faculty’s Silver Jubilee Celebrations. The venue will be the Hong Kong Academy of Medicine in Wong Chuk Hang, Aberdeen, and a registration website will be launched soon. For advanced details of the conference, including planned events and sponsorship packages/opportunities, please contact Mr Daniel Chok, Conference Manager, Tel: +852 2871 8896/8815; Fax: +852 2871 8898; E-mail: <dent25@facdenthk.org>.

Reports in brief

Some highlights from the HKU Faculty of Dentistry’s 19th Annual Scientific Meeting, held on 16 January 2006:

- Power of gum: Fluoride-containing chewing gum is more effective in remineralisation than fluoride toothpaste, according to 21-day tests in which participants wore a device containing tooth sections bearing caries-like lesions. [Anthonappa RP et al, Abstract No. 2.]

- Taking great pains: In a random telephone survey of 1222 Cantonese-speaking adults, a large proportion (42%) reported having symptoms of orofacial pain; tooth sensitivity (28%) and toothache (13%) were the most commonly cited problems. Half of those with symptoms said their pain was moderate to severe, but only a fifth had sought professional advice. [Zheng J et al, Abstract No. 6.]

- More than just words: A randomised controlled trial of four root caries prevention methods among 227 institutionalised elders aged 60 to 89 years has concluded that individualised oral hygiene instructions on their own are not as effective as instructions plus 3-monthly sodium fluoride varnish, 3-monthly chlorhexidine varnish, or annual silver diamine fluoride application in preventing new cases of root caries over 2 years. [Tan HP et al, Abstract No. 7.]

- On the move: Candida albicans forms biofilms better in dynamic than in static environments, an in vitro study has found. All 10 isolates tested produced significantly larger biofilms under dynamic conditions and could form biofilms equally well when cultured aerobically or anaerobically. [Thein ZM et al, Poster Abstract No. 20.]

- Parents may not know best: According to a child quality-of-life questionnaire study in Hong Kong, neither mothers nor fathers are fully aware of their children’s oral health status. Both mothers and fathers displayed “moderate” disagreement between their questionnaire replies and those of the 71 participating children who needed orthodontic treatment. [Zhang M et al, Poster Abstract No. 12.]

- Use of evidence evident: Among randomly selected consultations made during February to July 2005 in the Discipline of Oral and Maxillofacial Surgery at the HKU Faculty of Dentistry, treatments used in 71% of the 273 sessions assessed were based on the best available evidence in Medline and the Cochrane Library. More than a third of the evidence-based sessions corresponded to level 3, 2, or 1 evidence (randomised controlled trials, meta-analysis of such trials, or systematic review of such trials). [Lau SL and Samman N, Abstract No. 16.]
Need for life-long training

Although HKU Faculty of Dentistry graduates feel well prepared in many aspects of dentistry, continued training is important to advance skills, suggest Drs Colman McGrath and Esmonde Corbet. Of 104 dentists who graduated between 1997 and 2001 (ie, from the previous curriculum) and who replied to a mailed survey, the vast majority deemed themselves competent in basic dental procedures, general patient and practice management, and conservative dentistry. However, sizeable proportions said they felt less prepared for soft-practice management, and conservative dental procedures, general patient and development courses”.

Bearing the burden

Repeated weight-bearing on the jaws spurs cartilage growth through the activation of PTHrP and SOX9 genes, a rat study has shown.

Noting that PTHrP and SOX9 genes regulate chondrocyte differentiation and endochondral bone formation, Dr Andrew FS Ng and fellow orthodontists researchers from the faculty used real-time reverse-transcriptase polymerase chain reaction to quantify expression of these genes. Compared with control rats, those that were subjected to recurrent mechanical loading of the jaw via a bite-jumping device had significantly higher levels of expression of both genes within the mandibular condylar cartilage, suggesting that PTHrP and SOX9 promote condylar cartilage growth as a direct response to increased burden.

Osteotomy and distraction osteogenesis can both achieve marked improvements in facial aesthetics for patients with cleft lip and palate, conclude Prof Lim K Cheung and Dr HDP Chua after reviewing PUBMED studies from 1966 to 2003.

Although their meta-analysis found no relevant randomised controlled trial, the two analysts from the Discipline of Oral and Maxillofacial Surgery did identify 72 studies on cleft maxillary osteotomy and 25 on cleft maxillary distraction. Both techniques proved useful aesthetically, complications were uncommon, and distraction osteogenesis seemed preferable for young patients with severe deformities. However, it is still too early to draw conclusions about surgical relapse, velopharyngeal function, and speech, the authors comment.

Cholesterol drug mends bones

Simvastatin, a prescription cholesterol-lowering drug, can help bone wounds heal, Dr Ricky WK Wong and Prof Bakr Rabie have demonstrated in a rabbit model.

The two orthodontic researchers used histological techniques and electron microscopy to examine the early healing of lesions created in parietal bone. Lesions in seven rabbits that were treated with collagen plus a solution of simvastatin formed new bone on day 5—a full day earlier than those in seven controls that were treated with collagen plus water. Closer analysis revealed that the drug increased both the rate and amount of new bone made.

…Periodontal health…

…and its genetics

A single nucleotide polymorphism in the matrix metalloproteinase-1 (MMP-1) gene is associated with generalised aggressive periodontitis in the Chinese population, reports a team of periodontologists including the faculty’s Drs Li-jian Jin and Esmonde Corbet.

The MMP-1 gene is involved in collagen breakdown, and the ‘2G’ polymorphism at -1607 bp in the promoter region has been linked to increased gene expression and a heightened risk of inflammatory disease and cancer metastasis. This study used restriction fragment length polymorphism analysis to show that both the 2G allele and the 2G/2G genotype were more common among 40 Chinese patients with generalised aggressive periodontitis than among 52 controls (68.7% vs 49.0% and 52.5% vs 23.1%, respectively). This polymorphism may represent a useful disease marker, the authors conclude.

…and quality of life

Periodontal health status is significantly linked to oral health-related quality of life (QOL), report Drs SK Ng and Wai-keung Leung, after asking members of the local community to complete a Chinese-language short version of the Oral Health Impact Profile and to note periodontal symptoms in the past year. Among the 727 respondents, QOL had a significant association with six of the most QOL areas were also evident between respondents in whom periodontal attachment loss was low (2 mm or less) and those in whom it was high/severe (more than 3 mm).


[Ng SK, Leung WK. Oral health-related quality of life and periodontal status. Community Dent Oral Epidemiol 2006;34:114-22.]
Several recent advancements in orthodontic appliances have been prompted mainly by patients’ increasing demands for improved aesthetics—not only in the final outcome, but also during the orthodontic procedure itself. Braces can now be barely noticeable, allowing patients to be more self-confident during treatment.

To fulfill patients’ high demands, orthodontic appliances have recently undergone major improvements in aesthetics, comfort, and treatment time. Invisible lingual braces and clear overlays have become popular alternatives to conventional ‘wire-and-bracket’ therapy, while the self-ligating bracket is the latest innovation in conventional orthodontics to significantly improve patient comfort and reduce treatment time.

**Lingual appliances**

Lingual braces are hidden from sight because they are attached to the tongue side of teeth. Pioneers of this system include Fujita (1979) and Kurz et al (1982). Different kinds of lingual bracket systems have since been commercially developed, such as Kurz-Ormco seventh-generation edgewise brackets.

**Two steps in one**

A revolutionary technology that individualises each lingual bracket was reported by Dr Dirk Wiechmann in 2002. His ‘transfer optimised positioning’ method uses computer-aided design and computer-aided manufacturing (CAD/CAM) to fabricate and position brackets—normally two procedures—in a single step. After the tooth model is scanned by a high-resolution optical 3D scan, the brackets are individually designed and optimally positioned by computer. ‘Rapid prototyping technology’ is used for the actual manufacture of the lingual brackets, and the archwire that joins them together is bent precisely by robot arms. Variation is reduced to less than 0.008 mm between the slots and the archwires.

The resultant Incognito® bracket system (Figure 1) is designed to be as flat as possible, which significantly improves patient comfort. After 3 years of extensive clinical tests and numerous scientific studies, the system was offered commercially to orthodontists at the end of 2004.

**Occlusal overlays**

The Invisalign® system, developed by Align Technology Inc., is a novel and aesthetic approach for treating malocclusions. Designed using 3D computer-graphic imaging and CAD/CAM technology, the system is actually a series of custom-made, removable, and transparent occlusal overlays called ‘aligners’ (Figure 2).

The aligners are made from thin (0.030-inch) proprietary medical-grade plastic similar to polycarbonate and are trimmed at the level of the gingival margin, so they are nearly invisible. They are typically worn in pairs (one for each arch), kept in place for 22 hours per day, and taken out only for meals, brushing, and flossing. Each aligner is worn for approximately 2 weeks and then replaced by the next aligner in the series. Single-arch and anterior (canine to canine) treatments are also possible.

The Invisalign® system was first introduced commercially in the United States in 1998, and is available today in Hong Kong. In 2004, according to the manufacturer, more than 160,000 people worldwide had successfully straightened their teeth or were undergoing treatment with Invisalign®.

**Self-ligating brackets**

Self-ligating brackets can treat complex cases in a low-force, low-friction way, without the use of rubber ligature rings (Figure 3).

**Less discomfort, more speed**

This method minimises friction between the bracket and wire, thereby causing less patient discomfort than conventional treatments, while moving teeth more efficiently. As a consequence, total treatment time is reduced by 25%. Owing to improved control, fewer archwire changes are needed, intervals between visits are increased, and patient time in the chair is reduced by up to 75% during archwire changes. Heat-sensitive archwires can also be used to provide greater accuracy of tooth movement.

The sequence of treatment follows that of the common straight-wire technique: the initial phase using round or rectangular light nitinol (nickel-titanium alloy) archwire; the major mechanical phase using rectangular stainless steel wire; and the finishing phase using tinning molybdenum alloy wire.

**To see or not to see?**

Hong Kong orthodontists are today using the Invisalign® system mainly for patients desiring clear braces who have minor conditions requiring small tooth movements. Thanks to 3D graphical imaging and precise computer manipulation of virtual models, major movements of a greater number of teeth will be possible. For now, lingual appliances are the only invisible choice for more severe malocclusions. Despite the trend towards preferring braces that are not visibly obvious, the big advantage of self-ligating brackets is their significantly reduced treatment time. This attractive factor means that self-ligating brackets will be here to stay for a long time, and further developments down this path, such as the use of tooth-coloured wire, can be expected.

Dr Margareta Bendeus Hägg (e-mail: <sambende@hkusua.hku.hk>) and Dr Ricky Wong (e-mail: <fyoung@hkucc.hku.hk>) are Assistant Professors in Orthodontics at the HKU Faculty of Dentistry. Neither has any commercial interest in the named appliances.
Would you like to work in Asia’s premier Faculty of Dentistry?

If you answered YES, read on…

About us…

The HKU Faculty of Dentistry is Asia’s premier dental faculty and the only institution in Hong Kong providing undergraduate dental education.

The Faculty of Dentistry belongs to The University of Hong Kong — one of the top 50 research-led universities in the world and currently educating more than 20,000 undergraduate and postgraduate students from 48 countries.

As part of the University’s ambitious expansion and globalisation plan, the Faculty is extending its undergraduate dental curriculum from 5 to 6 years and expanding its research and postgraduate teaching programmes. So we’re now looking for **clinical/non-clinical Professors and Associate Professors** in the following disciplines:

- Endodontics/Family Dentistry/Restorative Dentistry
- Molecular Biology, Microbiology and Pathology
- Biomaterials/Dental Materials
- Dental education and e-learning
- Director of Polyclinics
- Implantology
- Orthodontics
- Oral Medicine
- Paedodontics
- Periodontology

About you…

If you think you have the talent to join our top-class international dental faculty, then we’d like to hear from you before 30 September 2006; please e-mail the Dean, Prof Lakshman Samaranayake, at <lakshman@hku.hk> or visit our website <www.facdenthk.org> for further details.

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Faculty of Dentistry, The University of Hong Kong
Website: www.facdenthk.org

For information: jhschan@hkucc.hku.hk
Orthodontic training in Hong Kong
By Urban Hägg and Bakr Rabie

Orthodontists specialise in treating malocclusion and dentofacial deformities in all age groups, and often in a multidisciplinary setting, to improve aesthetics, function, and quality of life. Orthodontics is a versatile and rewarding career that, as with any dental specialty, starts with a solid education.

Orthodontic training provided by the HKU Faculty of Dentistry comprises undergraduate, taught postgraduate, research postgraduate, and continuing education components. Our multitalented and international teaching staff consists of four full-time members and a team of devoted honorary and part-time clinical teachers, most of whom are Fellows of the Hong Kong Academy of Medicine.

Degree courses available
Undergraduate level
The undergraduate course provides a basic understanding about facial growth and development, aetiology of malocclusion and dentofacial deformities, how to obtain orthodontic records, how to make a diagnosis, and treatment planning. In 2003, the course's clinical orthodontic content was revised to expose students to ‘real-world’ orthodontic problems and solutions.

The basic component of the undergraduate orthodontic course, taught in year 3, provides orthodontic knowledge that is useful in the polyclinic. The advanced component is taught in year 5, when specific clinical situations are introduced, such as how dentists can include specialist orthodontic treatment to optimise conditions for restorative treatment and greatly improve the aesthetics of periodontally treated patients.

Taught postgraduate courses
To become a dental specialist in Hong Kong, one has to undergo 6 years of supervised training, as stipulated by the Hong Kong Academy of Medicine, which is monitored by the College of Dental Surgeons of Hong Kong. Specialist training in orthodontics comprises 4 years of basic training (1 year of general-practice experience plus primary fellowship, then the 3-year full-time Master in Orthodontics [MOrth] course), followed by 2 years of higher training (part-time Advanced Diploma in Orthodontics [AdvDipOrth] course and part-time supervised private specialist practice).

The MOrth covers basic training in orthodontics to a high international standard, is widely recognised around the world, and attracts applicants from all four corners of the globe. The AdvDipOrth, which targets mainly local trainees, adds more complex multidisciplinary cases and advanced orthodontic techniques. Both taught postgraduate programmes have comprehensive clinical, didactic, and research components.

Research postgraduate degrees
The faculty offers a 4-year PhD degree in orthodontics. The initial year includes preparatory courses, some of which are specifically related to the candidate’s research topic. Clinical and basic science research projects are often integrated to combine certain fields of interest. Past graduates have taken up academic positions—including some very senior positions—in Hong Kong, China, Australia, and Canada.

Continuing education
In Hong Kong, continuing education is mandatory for all dental specialists but still voluntary for general dentists. The faculty’s orthodontics unit is a major contributor to the regular Wednesday evening series of Oral Health and Science Seminars. In addition, lecture and typodont (model-based) courses are provided several times a year. In March 2006, for example, an advanced typodont course in cutting-edge lingual orthodontics was offered to trainees and orthodontists by Dr Dirk Wiechmann from Germany.

Research activities
Belonging to a research-led university, we strongly believe that research is an important intellectual exercise for orthodontic specialists. All past PhD, MOrth, and AdvDipOrth students have published their findings in one or more research papers in prestigious international peer-reviewed journals.

In addition, our staff regularly receive invitations to speak at major international and regional orthodontic meetings, and over the years, both staff and postgraduate students have been presented with numerous prestigious awards and prizes for their clinical and research achievements. We are proud of these successes, which are testament to the international status that the faculty and our discipline have gained.

Roots of orthodontics
- Edward H Angle was the founder of orthodontics as the first dental specialty, by establishing specialised training schools in 1901 in the United States; still used today are Angle’s classification of occlusion, introduced in 1899, and the principles of his innovative edgewise appliance.
- The American Association of Orthodontists was founded in 1900; one of the founders was Dr Angle. Website: <www.braces.org>.
- Dr PC Kwong was trained at one of Angle’s orthodontic schools and became the first orthodontist and dental specialist in Hong Kong in 1953.
- The Hong Kong Society of Orthodontists was founded by Dr Kwong in 1981. Website: <www.hkso.org>.
- The HKU Faculty of Dentistry generated its first orthodontists in 1988; before then, orthodontists were trained overseas. There are now 58 registered dentists with orthodontic qualifications in Hong Kong.

Prof Urban Hägg (e-mail: <euohagg@hkusua.hku.hk>) is Chair Professor in Orthodontics, and Prof Bakr Rabie (e-mail: <rabie@hkusua.hku.hk>) is Professor in Orthodontics at the HKU Faculty of Dentistry. More information about orthodontic training in Hong Kong can be found at <www.facdent.hk.org>.
Alumni photo diary

By Wilson Lee

21 February 2006

[Far right] Tips on root canals: A full-house of alumni and students was poised to learn some practical pointers about endodontic diagnosis and root canal preparation, at the February HKU Dental Alumni Association (HKUDAA) evening lecture, titled ‘Pitfalls in Clinical Endodontics’. Dr Robert PY Ng (AdvDipEndo 2002), a specialist in endodontics, delivered the lecture, which was sponsored by GlaxoSmithKline. Afterwards, Dr Ng [left of inset] was presented with a souvenir by HKUDAA President, Dr Franklin Tsang-tsang She (BDS 1998).

24 February 2006

[Left] Jubilee plans: Representatives from the HKUDAA, including its president, met with the Dean, Prof Urban Hägg, and Prof Tak-wah Chow to discuss alumni participation and possible joint events during the faculty’s Silver Jubilee Year.

30 April 2006

[Lower left] Filling holes: Dr Kin-man Lee (BDS 1986), a specialist in oral and maxillofacial surgery, updated attendees of this year’s HKUDAA Annual General Meeting with the latest on implantology in a talk titled ‘Replacing Missing Teeth with Dental Implants — A New Horizon in Dentistry’.

[Below] Alumni at their AGM, held this year at the Hong Kong Medical Association.

Outlook good for graduates

Graduates from the HKU Faculty of Dentistry can look forward to a successful future, statistics from the 2004 HKU Graduate Employment Survey suggest.

For a start, the employment rate within the first 6 months of graduation among Bachelor of Dental Surgery graduates who took part in the survey was much higher than the university average (98% vs 76%). Furthermore, the unemployment rate was zero (the remaining 2% pursued further studies), whereas the university-wide unemployment rate for the Class of 2004 was 0.6%. Although dentists were second only to medics in terms of total income, their average monthly income was HK$22,632—some 30% higher than the 2003 level and 69% higher than the university average of HK$13,374.

Master of Dental Surgery (MDS) degree holders also fared well in 2004. Their unemployment rate was zero, compared with 1.1% for all masters-level graduates who undertook taught rather than research courses. MDS degree holders earned the most, reporting an average monthly income of HK$41,625—up 6% from 2003 and more than twice the average of all taught postgraduates (HK$17,063).

In fact, MDS graduates from the Faculty of Dentistry have reported the highest income every year since the HKU Careers Education and Placement Centre started putting the survey results online a decade ago, at <www.hku.hk/cepc/survey/ges>.

Great expectations: dental graduates have a bright future
Sharing skills
The University of Hong Kong has announced details of its interdisciplinary research programme, which combines talents from HKU faculties and departments to focus on 21 themes in eight strategic areas (see <www.hku.hk/rss/mra.htm>). The newly established multidisciplinary groups will aim at “creating important synergies”, says HKU Pro-Vice-Chancellor Prof Paul KH Tam. Six members of the Faculty of Dentistry will contribute their research knowledge and skills to two research areas, as follows:

(1) Biotechnology and Drug Development
♦ Prof Bakr Rabie, Professor in Orthodontics, will collaborate with other members of the Genomics, Proteomics, and Bioinformatics team to generate new and important knowledge on health and disease, with the aim of improving treatments for patients.
♦ Dr Kwan-yat Zee, Associate Professor in Periodontology, will help the Drug Discovery and Synthesis team to design new drugs and find new applications for traditional Chinese medicines.
♦ Prof Lim K Cheung, Chair Professor in Oral and Maxillofacial Surgery, will help the Biomedical Engineering team to research into biotechnology transfer to benefit the community. The group will concentrate on biomaterials and tissue engineering, electrophysiology and signal processing, and imaging including magnetic resonance imaging.

(2) Human Health and Development
♦ Dr Li-jiang Jin, Associate Professor in Periodontology, will help the Infection and Immunology team to characterise pathogens and explore new treatments against them.
♦ Prof Anne McMillan, Chair Professor in Oral Rehabilitation, will assist the Healthy Ageing team in preventing and treating several common age-related diseases.

Recent appointments
♦ Dr Tak-wah Chow was promoted from Associate Professor to Professor in February 2006. "Expressions congratulates Prof Chow, who is also the faculty’s Associate Dean for External Relations and Senior Clinician in Family Dentistry and Endodontics. Prof Chow’s research interests are implantology, clinical prosthodontic materials, and dental magnets.
♦ Prof Bakr Rabie replaced Prof Urban Hägg as the Postgraduate Programme Director in Orthodontics on 1 April 2006.
♦ Dr Wong U Peng joined the faculty as a Visiting Professor in Oral and Maxillofacial Surgery in March 2006; the clinical attachment will last until 31 August 2006. Dr Peng comes from the Department of Stomatology at the Centro Hospitalar Conde São Januario in Macau.

For the Record
Preventive research rewarded
Dr Hai-ping Tan, PhD candidate (left), has received a 'Colgate Research in Prevention' Travel Award for a randomised controlled trial that she conducted under the supervision of Prof Edward CM Lo and Dr John Dyson, which compared four root caries prevention methods among an institutionalised elderly population (see also ‘More than just words’, Reports in Brief, page 7).

Only six such prizes are designated to different world regions and are awarded by competition to young researchers in the field of preventive dentistry. The prize for Asia will be presented to Dr Tan at the Opening Ceremony of the International Association for Dental Research 2006 General Session in Brisbane, Australia, this June.

International journal recognition
Prof Bakr Rabie, Dr Ricky WK Wong, and Dr Margareta Bendeus, along with co-authors from Cairo University (Dr Bassem Emad, Prof El-Mofty Sherif, and Dr Gamal Moussa Basma), are the first runners-up in the Harold Ellis Prize for Surgery 2006 competition, run by the International Journal of Surgery to find the three most outstanding research papers submitted for publication.

Placed second, the article ‘Vascular endothelial growth factor augments the healing of demineralized bone matrix grafts’ reports a study that was originally designed by Prof Rabie as the supervisor of Dr Bassem’s MDS research thesis. By adding vascular endothelial growth factor — a substance that normally stimulates blood vessel development — to commercially available bone matrix, the authors enhanced the latter’s potency in inducing bone formation.

Milk money
Dr Anut Itthagarun, Associate Professor in Paediatric Dentistry, has been awarded a grant of about HK$745,000 from The Borrow Foundation—a not-for-profit organisation based in England that promotes milk as a vehicle for fluoride delivery to children. The grant will be used to assess the effect of different concentrations and different dosing frequencies of fluoridated milk on the remineralisation of enamel bearing caries-like lesions. A key feature of the study will be a modified version of an in vitro pH-cycling model that was developed by Dr Itthagarun’s team.

“I’m especially proud of this award because of the extensive competition among researchers from all around the world. Also, from the HK$1.5 million ‘contract research’ grants I’ve attracted since 2000, this one is by far the largest,” says Dr Itthagarun, Principal Investigator of the project. “I’m confident that this connection with The Borrow Foundation will help attract further external funding to our faculty,” she adds.

Co-investigators of the research project are Prof Nigel King, Professor in Paediatric Dentistry at the HKU Faculty of Dentistry, and Prof James S Wefel, Director of the Dows Institute for Dental Research, University of Iowa, USA.
Spider’s web weaves a winner
Dr Andrew CC Chan, MDS student in periodontology and dental public health (left), has won the 2006 International Association for Dental Research (IADR)/Lion Dental Research Award for Junior Investigators in the category of periodontal research, for a project titled ‘Periodontal risk spider-web for periodontal assessment in Hong Kong Chinese’.

Under the supervision of Drs Li-jian Jin and Esmonde Corbet, Dr Chan conducted a structured questionnaire survey and full-mouth periodontal examination among 99 Hong Kong Chinese adults attending the Prince Philip Dental Hospital. Using the concept of a spider’s web to chart the interaction of various factors (web strands) associated with the risk of periodontitis (the web hub), the researchers calculated overall risk scores for each participant and found a correlation between the severity of periodontitis and risk level. They conclude that the spider-web technique may be a promising method of assessing periodontal risk of adults in Hong Kong.

Dr Chan will be presented the prize at this June’s IADR 2006 General Session in Brisbane, Australia. Only three such awards are bestowed annually to research postgraduate students by the oral health, periodontal, and salivary research groups of the IADR to “support improvements in oral health sciences through the stimulation of junior researchers”. Sponsored by the Lion Corporation, Tokyo, Japan, the prizes (US$2000 and a plaque each) are intended to recognise outstanding research in public dental health or the development of oral care products.

Dental picks
Prof Edward CM Lo, Professor in Dental Public Health at the HKU Faculty of Dentistry, gives his top 10 recommendations of dental websites, focusing on the dental health of Hong Kong’s public and dental practice that is based on the best available evidence published in the medical literature.

<table>
<thead>
<tr>
<th>Website</th>
<th>URL</th>
<th>Useful for information on…</th>
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<tbody>
<tr>
<td>World Health Organization (WHO) site on Oral Health</td>
<td><a href="http://www.who.int/oral_health/en">www.who.int/oral_health/en</a></td>
<td>Global oral health campaigns and relevant worldwide data</td>
</tr>
<tr>
<td>WHO Oral Health Country/Area Profile Programme</td>
<td><a href="http://www.whocollab.od.mah.se">www.whocollab.od.mah.se</a></td>
<td>Oral health diseases and services in various countries</td>
</tr>
<tr>
<td>Tooth Club, Oral Health Education Unit, Department of Health, HK</td>
<td><a href="http://www.toothclub.gov.hk">www.toothclub.gov.hk</a></td>
<td>Hong Kong’s dental services, oral health advice for the public, and educational games</td>
</tr>
<tr>
<td>School Dental Care Service, Department of Health, HK</td>
<td><a href="http://www.schooldental.gov.hk">www.schooldental.gov.hk</a></td>
<td>Hong Kong’s School Dental Care Service, which is provided to all primary school children in Hong Kong</td>
</tr>
<tr>
<td>College of Dental Surgeons of Hong Kong</td>
<td><a href="http://www.cdshk.org">www.cdshk.org</a></td>
<td>College responsible for dental specialist training under the Hong Kong Academy of Medicine</td>
</tr>
<tr>
<td>The Cochrane Collaboration</td>
<td><a href="http://www.cochrane.org/index0.htm">www.cochrane.org/index0.htm</a></td>
<td>Systematic reviews of clinical trials in various health and oral health topics</td>
</tr>
<tr>
<td>Oral Health Specialist Library, National Electronic Library for Health, National Health Service, UK</td>
<td>libraries.nelh.nhs.uk/oralhealth</td>
<td>Archive of news, best practices, and information on oral health issues</td>
</tr>
<tr>
<td>International Centre for Evidence-Based Oral Health, Unit of Periodontology, Eastman Dental Institute, University College London</td>
<td><a href="http://www.eastman.ucl.ac.uk/%7Epdarkins/iceph">www.eastman.ucl.ac.uk/%7Epdarkins/iceph</a></td>
<td>Links to systematic reviews, with an emphasis on periodontal diseases and implantology</td>
</tr>
<tr>
<td>Centre for Evidence-based Dentistry</td>
<td><a href="http://www.cebd.org/?o=1005">www.cebd.org/?o=1005</a></td>
<td>Methodology and introduction to evidence-based practice; online companion to the journal Evidence-based Dentistry</td>
</tr>
<tr>
<td>HKU Faculty of Dentistry</td>
<td><a href="http://www.facdenthk.org">www.facdenthk.org</a></td>
<td>Dental education in Hong Kong, including postgraduate and continuing education; keep us bookmarked!</td>
</tr>
</tbody>
</table>

Images in Dentistry

Making waves in dental research: what’s causing this ripple effect?
Hint: this pseudo-colour image, submitted by B Low, W Lee, LP Samaranayake, and EUO Hägg, is based on a scanning electron micrograph of an orthodontic appliance.

Look out for the answer on the News page of the faculty website <www.facdenthk.org>.

How to submit your image
If you have an image that you would like included as a quiz in a future issue of ‘Expressions’, please e-mail a high-resolution file (>300 dpi) to tlane@hkusua.hku.hk.

Please supply the following information:

♦ Names of authors;
♦ A title and legend of no more than 100 words; and
♦ A brief answer, which will be put online.

For photographs of identifiable individuals, please obtain prior patient consent.
Society life

By Rico WH Chu

New Ex-Co appointed
The Dental Society—the body that represents HKU dental students—saw the inauguration of its new executive committee on 20 February 2006 at a ceremony in HKU’s Rayson Huang Theatre. Representatives from the HKU Faculty of Dentistry, HKU Dental Alumni Association, and Hong Kong Dental Association joined more than 100 representatives from various HKU student organisations in welcoming the new office bearers. As the newly elected Council Chairman, I would like to congratulate the new team and look forward to making our voice heard in the HKU Students’ Union.

Sporting success
The Cantonese saying “Good things come in pairs” was well illustrated by our Dental Society sports enthusiasts, whose hard work paid off at this year’s interfaculty sports competition. Our faculty was the champion in both table-tennis and volleyball, as well as first runner-up in both basketball and soccer. Overall, among the 10 faculties taking part in the games, the men’s team was the first runner-up and the women’s team came sixth.

Book return
Apollonian—the annual journal of the Dental Society—is to make a come-back! Last published in 2002, Apollonian is scheduled for publication this October and will be full of interesting interviews, articles, student news, and photos. Our editors are busy interviewing, editing, and writing for the journal, and so far, we have already interviewed the HKSAR Secretary for Health, Welfare & Food, Dr the Hon York YN Chow, and HKU’s Vice-Chancellor, Prof Lap-chee Tsui. We look forward to receiving contributions from staff and students alike: please contact the Apollonian at <apolloniancom@gmail.com>.

Rico Chu is a fourth-year BDS student and Council Chairman of the Dental Society.
E-mail: <ricochu@yahoo.com>.

Getting your brain in gear
We all have our own style of studying, but which method is the most effective? An online article published on 26 February 2006 offers evidence that preparing your frame of mind and being ready to think could be the key to successful learning (Otten LJ, Quayle AH, Akram S, Ditewig TA, Rugg MD. Nature Neuroscience, doi 10.1038/nn1663).

Neuroscientists from University College London and the University of California at Irvine studied electrical brain activity of healthy young adults while they unknowingly took part in a word-memory test. In an attempt to prepare or prime the brain, the researchers showed a symbol on a computer screen that asked the participant to decide whether the upcoming word represented a living or non-living thing, or whether the first and last letters of the word were in alphabetical order.

Thinking about living status rather than just studying letters in a word not only stimulated activity in the brain’s frontal region even before words appeared on the screen, but it also helped participants remember words better.

The findings suggest that how well we commit something to memory can be affected by what our brains do just beforehand, and that thinking about the meaning of what we are trying to learn is more effective than rote learning.

Memory jogging
How two students train their brains...
“...to begin with, I like to read through all the relevant material, and then write down a summary of what I’ve understood from it. If I encounter something that I don’t fully get, I will try to find out more on the topic from the ‘Kingdom of Knowledge’ library and I will discuss the subject with my tutors or classmates. Once I fully understand the information, I can memorise the details without difficulty. Of course, revision is needed from time to time, to consolidate what I’ve learnt.” Edward KH Liu, fifth-year BDS student.

“Our BDS curriculum uses problem-based learning, so it successfully arouses students to think critically and analytically, and to seek solutions to real-life situations. Thoroughly thinking about the material, particularly new information, before memorising it gets my brain warmed up, makes the message appear more familiar, and helps me retain it longer.” Anne WY Chung, fifth-year BDS student.
Expression of Appreciation

Encore!
The fundraising concert given by pianist Mr Wen-yu Shen (pictured left) on 8 February 2006 not only was a musical marvel on the evening, but it also struck a chord with some HKU alumni, prompting them to financially support the missions of the HKU Faculty of Dentistry. A big Thank You goes to these HKU alumni, listed in the Box, for their generous donations, as well as to Mr Shen for his time and artistry. As a result of this event’s success, the faculty hopes to plan further benefit concerts and fundraising events in the future.

Even better is that these alumni contributions will be matched dollar for dollar by the Stanley Ho Alumni Challenge scheme, which has promised to match all gifts made by HKU alumni and students from November 2005 to October 2010, up to a maximum of HK$100 million per year. Once tax deductions are claimed, alumni and student donations made through the Stanley Ho Alumni Challenge will actually be more than doubled!

Giving something back
Individual donations to the HKU Faculty of Dentistry are an important source of income that is needed to maintain our world-class standard of education, research, and delivery of oral health care.

“We especially hope that alumni from this faculty are inspired by the response to our fundraising concert and feel encouraged to give something back to their alma mater, to ensure that today’s students can also benefit from the same unparalleled opportunities that launched their careers,” says Dean Samaranayake.

Macau-based alumnus donor Dr Anthony CK So recalls: “The HKU Faculty of Dentistry offered me opportunities to see and learn from a variety of complicated cases that were treated successfully with cutting-edge methods. This experience broadened my mind and knowledge, and has proven to be invaluable to my dental career. Why is it important that fellow alumni support and contribute to the faculty? So it can continue to offer an exceptional learning environment in the future.”

Supporting your University Family
HKU hopes that the matching scheme of the Stanley Ho Alumni Challenge will be the impetus needed to initiate a strong university-wide spirit of regular giving, on par with the long-practised tradition among alumni of universities in the United States. But we need the involvement of as many alumni as possible—for example, we can take full advantage of the scheme if 50,000 alumni donate HK$2000 a year for 5 years. To help us get closer to this goal, please give generously, using the donation form in this issue of Expressions (opposite) or the online form at <www.hku.hk/giving>.

You’re instrumental to our future
“The upcoming Faculty Silver Jubilee Year, November 2006 to November 2007, will be another perfect opportunity for alumni to renew interest in our faculty, strengthen bonds, remember and be thankful for their roots, and show their commitment to the continuing survival of perhaps the top dental school in Asia,” says Dean Samaranayake. “Together, we can ensure another 25 years of excellence in dentistry.”

Also welcome are donations from non-alumni, members of the public, and corporations who wish to support the faculty’s mission—to serve the people of Hong Kong and the region by advancing their oral health and well-being through excellence in learning, discovery, patient care, and engagement. As the only dental faculty in Hong Kong, we play a key regional role in training dental professionals and providing affordable or free oral health care to underserved sectors of the public. If our goals are in tune with yours, do help us secure our future by making a regular gift to the faculty.

Donations will be recognised in Expressions and the faculty website, and those made in 2006 and 2007 will also be recognised in the faculty’s jubilee souvenir book.

Alumni Recognition
The following HKU alumni made contributions to the Faculty of Dentistry (Dean’s Development Fund for Excellence) in response to the Fundraising Concert 2006:

Dr Hon-fai Chan (BSc 1974)
Dr Susan Chan (MBChB 1971)
Prof Lim K Cheung (PhD 1996)
Dr Henry Chun-tao Law (BDS 1985)
Dr Wai-keung Leung (BDS 1987, MDS 1990)
Dr Yuthika H Samaranayake (PhD 1995)
Dr Anthony Chi-keung So (PDipDS 2004)

Thank you!

Watch your investment bloom
Your investment in the future of the HKU Faculty of Dentistry will ensure that it continues to serve the people of Hong Kong and the region, and to nurture tomorrow’s leading dental clinicians, educators, and researchers.

Please make a gift today by:
- filling in the form opposite
- going online to <www.hku.hk/giving>
- calling the HKU Foundation Secretariat at +852 2857 8584

Gifts from HKU alumni and students will be matched until October 2010!
Yes, I would like to make a gift to the HKU Faculty of Dentistry

Title: ☐ Dr / ☐ Mr / ☐ Mrs / ☐ Miss / ☐ Ms
Surname: ____________________________ Given names: ____________________________
Address: ____________________________
Tel: __________ Fax: __________ E-mail: ____________________________

I wish to donate a:
☐ One-time gift of ☐ HK$500 / ☐ HK$1000 / ☐ HK$2000 / ☐ HK$5000 / ☐ Other: HK$_________ / ☐ Other currency: ___________________
☐ Monthly gift of ☐ HK$50 / ☐ HK$100 / ☐ HK$300 / ☐ HK$500 / ☐ Other: HK$_________ / ☐ Other currency: ___________________

to ☐ The Dean’s Development Fund for Excellence / ☐ the following use: ___________________________________________________________
I am ☐ an HKU alumnus/a; year of graduation _______; faculty: ______________________ / ☐ HKU student; faculty: ______________________, so my gift is eligible for matching through the Stanley Ho Alumni Challenge.
☐ I wish to remain anonymous on donors’ lists
☐ I would also like to know about other ways of supporting the HKU Faculty of Dentistry (endowments, insurance, estates, stocks, bonds, bequests)

Notes: Donations are cumulative and donors of over HK$20,000 will be eligible for HKU Foundation membership; receipts will be issued for donations of HK$100 or more for tax deduction purposes; donations from the US and Canada are entitled to tax deductions and will also count towards eligibility for HKU Foundation membership; for donations from the US, please visit the Friends of HKU website: <http://usfriends.hku.hk>.

Payment method (please tick one; monthly donations may be made only by autopay or credit card):
☐ Autopay (please fill in the Direct Debit Authorisation Form below)
☐ Cheque (please make cheque/money order payable to The University of Hong Kong)
☐ Credit card (for monthly gifts, monthly donations will continue until written notice):
☐ VISA / ☐ MasterCard Card No.: __________ / __________ / __________ / __________ Expiry date (MM/YY): __________ / __________
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Signature: __________________________________________________________________________ Date: ________________________

☐ Direct transfer (please choose one of these two accounts for The University of Hong Kong and send us the original bank deposit receipt or the online transfer acknowledgement with this form) ☐ HSBC: 004-502-403421-001 ☐ Bank of East Asia: 015-176-25-00683-0

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Please complete and return this donation form (photocopies are acceptable to: The Secretariat, HKU Faculty of Dentistry, Prince Philip Dental Hospital, 34 Hospital Road, Hong Kong Remember to complete all necessary information, enclose all necessary materials, and give as generously as you can. You can also make a gift online at <www.hku.hk/giving>.

THANK YOU FOR YOUR SUPPORT!
Guide to orthodontics

♦ What is orthodontics?
♦ What are the benefits of orthodontic treatment?
♦ What does orthodontic treatment involve?
♦ Do I need orthodontic treatment?

What is orthodontics?

Orthodontics is the dental specialty that corrects the position of teeth. Ortho means ‘straight’ and dontic means ‘tooth’.

An orthodontist is a dentist who specialises in orthodontics and has undergone 6 years of postgraduate training. Fixing misaligned teeth not only can improve your smile and facial appearance, but it can also improve general oral health and create better alignment and spacing of teeth when you bite down.

Benefits of orthodontic treatment

Benefits include:
- Better appearance
- Improved self-esteem
- Improved oral function

Principles of orthodontic treatment

Realignment of teeth may involve the following:
- X-ray examination
- Impressions made of the teeth
- Appliances such as braces; metal braces on the tongue-side of teeth and clear plastic positioners are available if patients do not want their braces to be too noticeable
- Removal (extraction) and reshaping of teeth
- Surgery may be needed to correct jaw shape

Patients need to clean teeth and appliances properly, visit their orthodontist regularly, and avoid eating certain foods. Treatment can typically last 1 to 3 years, depending on the severity of the correction.

Sometimes, orthodontic treatment is needed before patients can have other dental procedures done, like fitting dentures or implants. Similarly, conditions like gum disease need to be treated before, during, or after orthodontic treatment.

Do I need orthodontic treatment?

Signs of orthodontic disorders can include:
- Visibly misaligned or crooked teeth, or gaps
- Deviation in facial appearance
- Difficulty or discomfort when eating

Inherited causes include improper jaw growth; non-inherited causes include tooth loss, injury, and habits. Orthodontic treatment can be provided at any age from 7 years to 70+ years. If you think you or your child needs orthodontic treatment, please arrange a consultation with an orthodontic specialist.

Sources: MedlinePlus, Hong Kong Society of Orthodontists. For more information, see <www.hkso.org>.

What does it mean?

Some commonly used orthodontic terms:

Fixed appliance - Braces cemented or bonded to teeth, especially for large corrections
Retainer - Removable appliance worn to maintain position of teeth (eg, after fixed-brace treatment)
Occlusion - Tooth alignment and spacing when you bite down; ideally, upper teeth fit slightly over lower teeth
Malocclusion - An irregular bite
Class I malocclusion - Bite is mostly normal, but teeth are crowded or crooked
Class II malocclusion, excessive overjet - Upper teeth overlap lower teeth more than normal
Class III malocclusion, negative overjet - Lower teeth go in front of the upper teeth
Open bite - Teeth do not come together
Deep bite - Upper teeth overlap lower teeth excessively
Crossbite - Reversed position of one or more teeth
Crowding - Lack of space
Diastema - Gap between teeth
Drift - Unwanted gradual movement of one or more teeth

A 42-year-old man before and after orthodontic treatment

Written by Trevor Lane, DPhil; edited by Urban Hägg, FHKAM (Dent Surg). This Patient Page is for general informational use and is not a substitute for diagnosis; for specific advice, please consult an orthodontic specialist.
New

Nano-composite Material

Filtek Z350 Universal Restorative System

Filtek Supreme XT Universal Restorative

... Beautiful Esthetics Proven Strength.

Customer Service Hot Line: 2806 6325
Extra Xylitol
HELPs PREVENT TOOTH DECAY & STRENGTHEn TEETH

New Melon Flavor

Wrigley’s Extra Xylitol
MELON FLAVOUR SUGARFREE GUM
35g NET

FDI World Dental Federation
Chewing of sugarfree gum - such as Extra - is beneficial to dental health