NEWSPAPER POST

TheSynapse

The Medical Professionals' Network

MEDICAL IMAGING

Ultrasound of Musculoskeletal Trauma – Part II

by **Pierre Vassallo**
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In the last article, I discussed the value of high-resolution ultrasound in the assessment of injuries of the achilles' tendon, common extensor and flexor tendons of the elbow, the biceps/triceps tendons, the carpal tunnel structures including the median nerve and the ulnar collateral ligament.

In this second and final article on musculoskeletal ultrasound, I shall discuss assessment of injuries of the ilio-psoas tendons and bursa, the quadriceps and hamstring muscles and tendons, the peroneal and tibialis anterior and posterior tendons and the ligaments of the ankle.

The iliopsoas bursa lies between the iliacus and psoas muscles (the flexor muscles of the hip) and extends from the extraperitoneal space in the right iliac fossa inferiorly into the proximal thigh deep to the inguinal ligament. In the normal state, this bursa is not visible on ultrasound (or CT or MRI), but any trauma to the psoas or iliacus muscles as for example with forceful flexion of the hip against resistance, could result in fluid collecting within the bursa (Figure 1). Ilio-psoas bursitis may also occur in patients with adjacent hip joint problems such as severe osteoarthritis, inflammatory joint disease or infection.

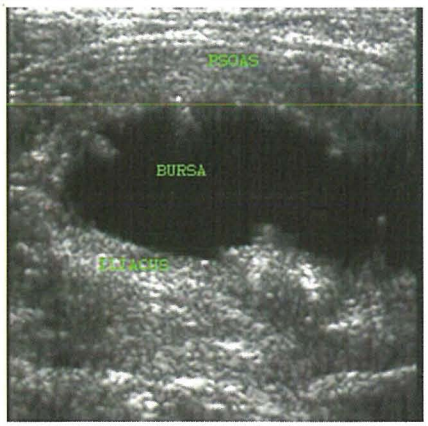

Figure 1. *Iliopsoas bursitis shown by ultrasound on transverse section just below the inguinal ligament in a football player following forceful flexion against resistence.*

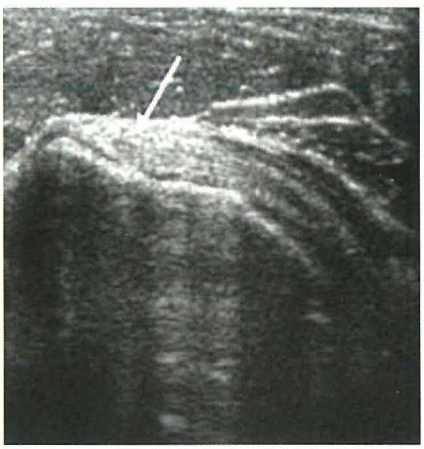

Figure 2. *An area of diminished echogenicity (arrow) is seen close to attachment of the iliopsoas tendon, which represents a partial thickness tear.*

Iliopsoas tears most commonly occur at the tendonous insertion at the lesser trochanter of the femur. These are also due to hip flexion against resistance and partial tears, which are more common, may be very subtle (Figure 2). Complete avulsions are rare.

The rectus femoris is the most commonly injured of the quadriceps muscles. This occurs with forceful knee extension against resistance (such as kicking the turf). A fluid collection is seen in the mid portion of the rectus femoris muscle (Figure 3), which is due to blood filling the tear. This later becomes organised showing a more complex texture of mixed echogenicity and normally resolves over a period of 3-4 weeks.

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Editor's Word

Welcome to the last issue of TheSynapse Magazine for 2007. If we look back at this year, we see several achievements for the editorial board and healthcare professionals alike. We started featuring interviews of fellow colleagues (including doctors, pharmacists and dentists) so as to get to know them in a more informal way. Our allegiance to increase a teamwork approach between healthcare professionals is further advocated by the increased frequency of the Wine Education events held by TheSynapse during these past months.

We have also increased the number of articles published this year to 59. This has led to a thicker magazine. Needless to say, quantity did not compromise on quality.

Obviously this improvement was not possible without the continuous commitment of our contributors, the steady support of our sponsors and the loyalty of our readers. From our end, the editorial board pledges to continue to strengthen our vision of delivering at your door, different aspects of recent advances in healthcare written by distinguished colleagues.

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Ultrasound of Musculoskeletal Trauma – Part II

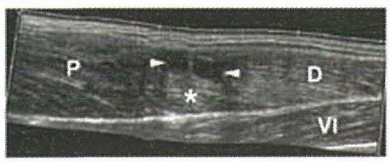

Figure 3. *An intramuscular haematoma (arrowheads) is present in the mid portion of the rectus femoris muscle (P = proximal, D = distal, VI = vastus intermedius muscle)*

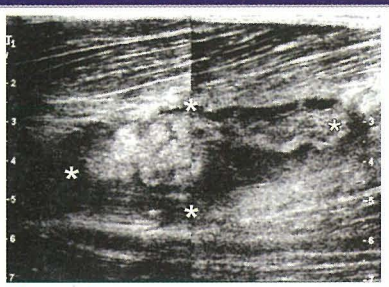

Figure 4. *Organising haematoma in the mid portion of the biceps femoris; the echogenic material within the asterisks represents blood clots, debris and fibrinous material, which will subsequently organise into a scar.*

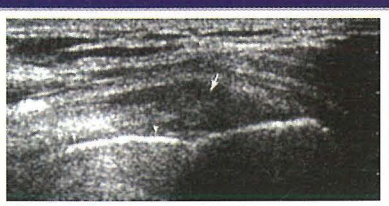

Figure 5. *Longitudinal scan through the peroneus brevis tendon showing a gap in the tendon (arrow) filled with synovial fluid. The posterior cortex of the tibia (arrowheads) is also seen.*

Hamstring tears are more common the quadriceps tears and occur due to sprinting or forceful knee flexion against resistance. A hamstring tear appears as fluid collection (blood) within the muscle tear (biceps femoris is more commonly involved), which subsequently organises showing echogenic material within (Figure 4) and finally forms a scar.

The peroneus lungus and brevis tendons are also prone to tears. Longitudinal tears of the peroneus brevis tendon are thought to be the result of repetitive peroneal tendon subluxation out of the groove posterior to the lateral malleous. This may be due to a torn retinaculum, a ligamentous structure which retains these tendons within the groove. Subluxation of the peroneal tendons occurs mainly during plantar flexion and eversion of the foot with the patient complaining of a "popping feeling" behind the lateral malleolus. The process of subluxations may be documented on realtime ultrasound. Full tears of the peroneal tendons require surgical repair including repair of the retinaculum. Full tears present with a gap in the tendon (Figure 5), while partial thickness tears present with hypoechoic foci within the tendon or marked thickening of the tendon (Figure 6).

Anterior and medial to the peroneal tendons and retinaculum lie the lateral ligaments of the ankle, which are also readily assessed by ultrasound. The anterior talo-fibular ligament is most prone to tear caused by inversion injuries of the ankle. The anterior talo-fibular ligament appears as an echogenic band extending anteriorly from the anterior aspect of the tip of the fibula to the talus (Figure 7). Discontinuity of this ligament is seen on ultrasound when a tear is present (Figure 8).

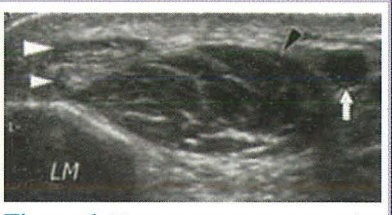

Figure 6. *Transverse scan posterior to the lateral malleolus (LM) shows the peroneal groove containing a normal peroneus brevis tendon (white arrowheads), a thickened hypoechoic peroneus longus tendon (black arrowhead), which is therefore partially torn, and the lesser saphenous vein (white arrow).*

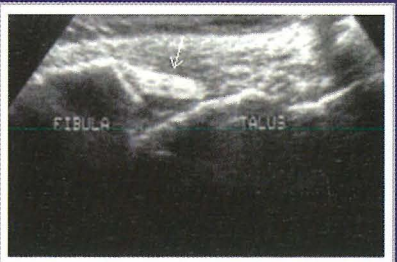

Figure 7. *Longitudinal scan through a normal anterior talo-fibular ligament (arrow).*

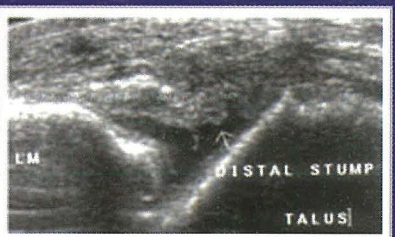

Figure 8. *Longitudinal scan through a torn anterior talo-fibular ligament. Some fluid is seen surrounding the tip of the torn ligament and deep to it.*

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The changing scenario in medical practice

Over the past two decades we have been witnessing unprecedented changes in medical practice in Malta. The changes have occurred in a number of fields all of which have a profound effect on the dynamics of the health system. We have seen rapid changes in medical education both at an undergraduate and postgraduate level, and we have witnessed a rapid evolution in the infrastructure of both private and public health care services, especially at secondary care level.

In line with the rest of the developed world, we are experiencing greater emphasis and demand for the provision of preventive health care services aimed at decreasing asymptomatic risk factors that are known to influence the morbidity of major killers including cardiovascular disease and specific cancers. Also in line with the rest of the developed world, we have witnessed a rapid penetration of information technology in society and the advent of the Internet and its wide availability has contributed to increase patient knowledge regarding health matters.

Patient expectations have increased to levels that were unimaginable just a few years ago. They demand that medical health care providers are not only knowledgeable but offer a balanced mix of curative and preventive services. Patients also expect and demand that medical health care providers have excellent communication skills and use the right communication tools appropriately. Patients' loyalty depends on the perception that the health care provider offers the right mix of knowledge, attitudes and skills to match their expectations.

Certainly, health care providers cannot ignore the reality of these expectations.

Call and recall

Having a relatively stable practice population and possessing a basic list containing data of name, age and gender can prove to be an extremely valuable asset for any health care professional interested in providing comprehensive health care services. A quick look at the age / gender distribution would help the provider optimize the range of services that he or she could offer. The data can also be used to invite patients who opt for such a service, for preventive health interventions based on their age and gender.

Children and their vaccines (and other check ups)

With no less than ten different kinds of vaccines available by the time children reach their early teens as well as mind boggling, ever changing recommended schedules, parents would surely appreciate guidance from their health care provider.

Adult health maintenance interventions

In adulthood, interventions aimed at assessing, and where appropriate modifying, a number risk factors become fundamentally important. Monitoring risk factors related to cardiovascular disease and diabetes such as the regular, systematic assessment of height-weight ratio, blood pressure and abdominal circumference as well as assessment of a number of biochemical parameters including glucose and lipid profile, go a long way to help the health care provider give advice to patients on managing their cardiometabolic parameters. Decreasing such risk factors have consistently shown to decrease both mortality and morbidity.

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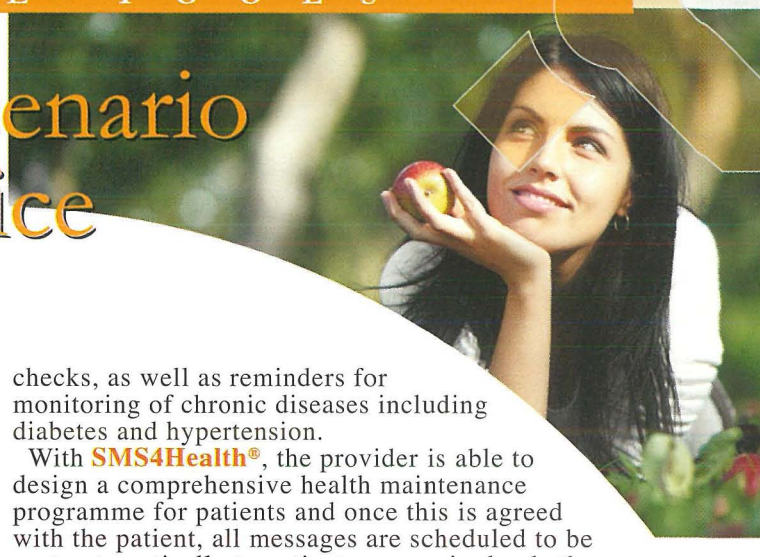
The changing scenario in medical practice



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Cervical cytology as well as the appropriate use of non invasive screening tests for colon cancer and PSA as well as other interventions like mammography and bone mineral density assessment also have a role to play in health maintenance programmes.

Unfortunately, nothing short of a regular, systematic and ongoing programme of assessment can be said to provide an optimum level of service.

If one wants to set up a health maintenance service one must seriously consider the introduction of a systematic recall system. Manual recall systems, even if assisted by a computerized system of printing, mail merging and postage require substantial manual intervention, back office work that is usually delegated to secretarial staff, as well significant costs.

The infrastructure required to set up such a system has discouraged many from adopting recall systems in their practice since most independent health care providers work as solo practitioners with little if any back office support. This has essentially resulted in a situation where practically only medium to large organizations actually can offer such services.

A few weeks ago, we saw the launch of an innovative service that removes a major barrier to the introduction of recall services in medical practice. **SMS4Health®** provides a personalized, automated recall service to patients, where patients are reminded about their health maintenance requirements on their personal mobile phone by receiving a personalized message that is sent on behalf of their health care provider.

SMS4Health® offers standardized recalls for a number of conditions ranging from recalls for the various vaccination programmes to routine health checks, as well as reminders for monitoring of chronic diseases including diabetes and hypertension.

With **SMS4Health®**, the provider is able to design a comprehensive health maintenance programme for patients and once this is agreed with the patient, all messages are scheduled to be sent automatically to patients as required, whether they are required once, such in the case of vaccinations, as well as for those conditions where recalls are required on a regular basis such as recalls for yearly flu vaccination, cervical smears or diabetes monitoring.

Though change does not necessarily mean improvement, there can be no improvement without change...

Key elements that make the **SMS4Health®** system a useful practice tool include that data needs to be entered only once, the system works independently of any electronic medical record system and the system is portable – this being especially useful for those who practice from various offices. In designing the **SMS4Health®** system, great care was taken to make the whole system very easy to use and it practically does not interfere in the flow of the consultation process.

After extensive pilot testing, more than thirty doctors have started to offer this service to their patients.

SMS4Health® has been designed to improve the quality of health care delivery in any practice that would benefit from an automated recall system which up till recently could only be on one's wish list.

The **SMS4Health®** website is *www.sms4health.com*. We invite all health care providers who would like to use this system to contact us on 21453973 or email *helpdesk@sms4health.com*. Our representatives will explain how the system works and how to integrate in one's practice. All training and support materials will also be provided to the practitioner.

The Past, Present and Fu

by **Everaldo Attard** *BPharm(Hons) MSc(AgrVetPharm) PhD*
Senior Lecturer, University of Malta

Herbal medicines are well sought by the general public worldwide. Since these products have significant pharmacological activity, and thus potential adverse effects and drug interactions, healthcare professionals must be familiar with this therapeutic modality. This article gives an account of the origins of herbal medicines and their transformation into modern medicine. It also highlights what knowledge should be required by the healthcare professional to deal with the ever increasing number of interested consumers.

Orthodox versus Complementary and Alternative Medicine

Medical herbalism is the practice of healing with medicinal plants. Modern orthodox (western, allopathic) treatment is different from medical herbalism (alternative therapy), but at some instances these two merge. Such examples include the use of Friar's balsam or benzoin tincture (mainly from *Styrax benzoin*) for the treatment of colds, the use of *Aloe vera* gel for the treatment of inflammatory conditions[1] and the use of cascara or senna (*Rhamnus purshiana* and *Cassia spp.*) in the treatment of constipation.

Most complementary and alternative medical (CAM) therapies, tend to suffer from a lack of research and critical evaluation.[2] In fact, both supporters and critics point out that there are difficulties in the conceptual and practical scientific evaluation of alternative therapies, such as the case with homeopathy, reflexology, acupuncture, and other forms of therapies. However, herbal medicine fits well with the standard scientific evaluations used to assess modern medicine. So much so, that certain natural products derived from plants, have been used to describe pharmacological action of drugs even at the receptor level. For instance, the opioid receptors are named after the effects of opium alkaloids (from *Papaver somniferum)* at these receptors,[3] while the division of acetylcholine receptors as muscarinic and nicotinic subtypes is derived from the effects of muscarine found in the *Inocybe* and *Clitocybe* mushroom species and nicotine found in the tobacco plant (*Nicotiana tabacum*).[4]

From Culture to Science

Success in research has been achieved by subjecting traditional knowledge to scientific evaluation. This multidisciplinary approach is termed ethnopharmacology or ethnomedicine. In fact, compounds derived from traditional remedies are classified as:

- efficaceous unmodified natural products, such as digoxin used for the treatment of heart failure or morphine and papaverine as the main sedative constituents of opium poppy,
- remotely-used unmodified natural products, such as vincristine for the treatment of cancer,
- modified natural products, such as the semisynthesis of sodium cromoglycate from khellin,[5] the furanocoumarin derived from *Ammi visnaga*, and
- completely synthetic drugs derived from a natural lead compound. Scientists have produced aspirin as the synthetic derivative of salicin, the analgesic in the white willow (*Salix alba*).[6]

Through research, traditional compounds are transformed by removing toxic moieties, improving the pharmacokinetic profile and enhancing the pharmacodynamic properties of the drug.

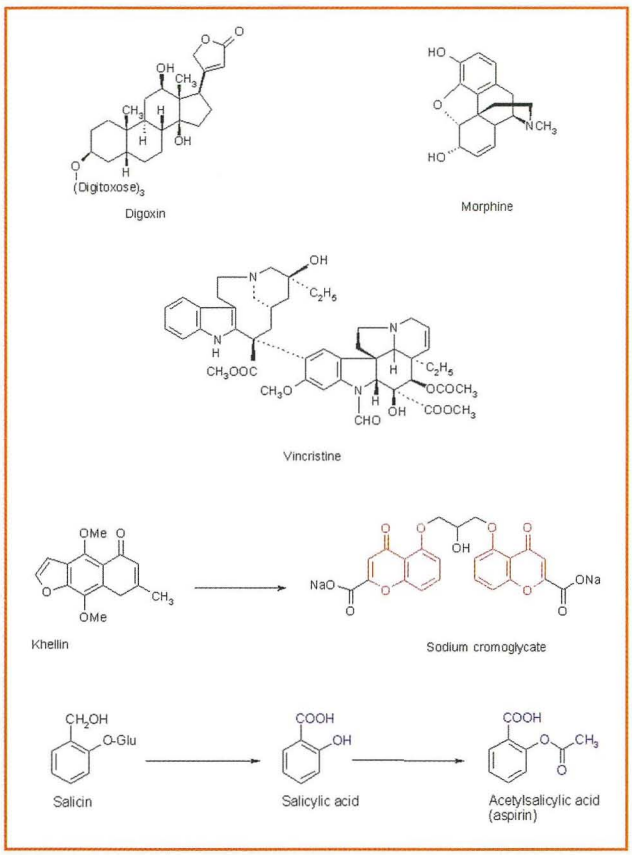
Side Effects, Contraindications and Drug Interactions

With the advent of modern synthetics, the use of herbal medicine soon declined reaching a trough during the early twentieth century. Ironically, the majority of synthetic, chemical medicines that have been developed have been derived from 'natural' plant sources. However, due to the short-term clinical testing of modern synthetics, most side effects and contraindications emerged post marketing. A classical example is the case with thalidomide, which was placed on the market prior to adequate human testing, resulting in phocomelia[7] in babies born to women that were administered the drug as an antiemetic during the first trimester of their pregnancy. This and other related cases led to a new era, the renaissance of herbal medicine. Although misconceptions still exist today, herbal medicine is still considered to be safer due to a long-standing history of usage. This is not always the case as there are natural products derived from plants that have a very narrow therapeutic window, although they are very efficacious and are used as first line drugs in certain medical conditions. For instance, digoxin is a toxic cardiac glycoside extracted from the *Digitalis* species, while colchicine is a toxic alkaloid[8] extracted from *Colchicum autumnale* used in the treatment of gout. Since both orthodox and herbal medicines contain pharmacologically-active constituents, drug interactions are likely to occur in certain instances. For example, bleeding episodes when gingko or garlic are concurrently administered with warfarin therapy, or an increased risk of hypertension when yohimbine is given to patients undergoing tricylic antidepressant treatment.[9] Unfortunately, one can rarely find a complete list of drug-herb interactions possibly due to the fact that these herbal medicines were only recently introduced in orthodox treatments and few of these interactions have been reported.

Quality Assurance: Standardisation and Contaminant Testing of Herbal Medicines

Most commercial herbal medicines lack the

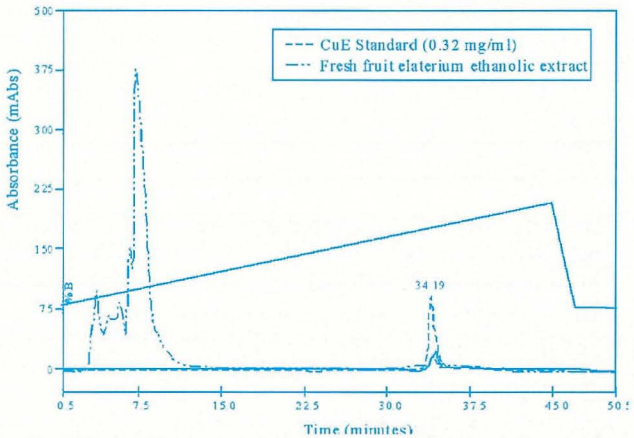
ıture of Herbal Medicine



of active constituents in a plant varies with the part of the plant used, stage of ripeness, geographical area where the plant is grown and storage conditions.[11] Product consistency is achieved by determining the metabolite content throughout the processing of the herb and quality control checks at the end of the process. Concentration adjustment is generally made to ensure good quality and consistency. Typical examples include the standardization of ginseng extracts on the content of ginsenosides[12] or *Ecballium elaterium* fruit juice on the cucurbitacin content.[13] Although today, herbal medicinal companies are emphasizing on Hazard Analysis and Critical Control Point (HACCP) guidelines and good agricultural and manufacturing practices, some herbal medicines still contain high levels of contaminants. Such contaminants include pesticide residues, microorganisms, aflatoxins, radioactive substances and heavy metals.[14] Once a product is approved and placed on the market, it is up to the healthcare professional to judge the efficacy of the product.

Patients and Consumers

The worldwide use of herbal medicine has been on the increase since the nineties. Today, there is more awareness by the public on the potential benefits of herbal medicine but consumers are unable to judge which information is genuine and which is merely there for commercial purposes. Many consumers are even more confused when they find plant and plant product terms under different nomenclatures,



such as functional foods, herbal medicine, nutraceuticals and much more. This lack of professional judgment leads to misconceptions on the use of these products that might lead to dangerous outcomes. Healthcare professionals may play a decisive role in this regard.

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Third letter from Your

by **Paul Micallef** *BA DClinPsych CPsychol(UK)*
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Dear colleague,

Communication skills are prescribed with such frequency as the key to successful solutions that with time many professionals tended to view them somewhat skeptically. Towards the end of the 20th century, communication skills seemed to become a panacea for numerous problems, be it personal or professional, making an ever increasing number of us weary of them. Now, we are witnessing a revival of their potential and need.

In my first two letters published in the previous two issues of TheSynapse magazine I wrote to you about how initially, effective communication has to start with 'me', on an intra-personal level. If I cannot communicate effectively with myself at an intra-personal level then I am bound to have problems communicating with others, be it at an inter-personal or family / team / organizational level.

In this issue I promised to write about assertive communication, the most coveted of the three communication styles. Assertive communication is in constant competition with passive or aggressive communication. Assertive communication focuses on everything there is to know about what you want to say, why you want to say it, how to say it in the best way, when to say it, which non-verbal and verbal skills to use, whom to involve in the process and where to say it in order to achieve maximum output.

On using these skills in combination with your technical expertise, I recommend that you also consider how realistic, reasonable, fair and honest you are. In the end, this is what makes communication complex and why many people end up taking 'short cuts' in providing a holistic quality service. Unfortunately, when we do this we end up paying a hefty price because we undermine ourselves and the quality service we aim to provide. Moreover, with medico-legal litigation becoming increasingly frequent we cannot afford to cut corners where communication is concerned, be it verbal or non-verbal.

As we approach the end of the first decade in this 21st century the pressures on us as health care professionals are constantly growing. These pressures are not only linked with keeping updated on the advances being made in our respective fields of practice but are also directly linked to the ever increasing and evolving human and organizational expectations, patient rights, I.C.T. and the fact that both public and private health care sectors are focusing on adding greater value to the holistic prevention, treatment and care achievement processes.

Assertive communication requires an open and positive personal attitude towards self and others. This attitude needs to actively reflect the very self respect and trust that are fundamental to effective communication. Therefore a closed, defensive or negative attitude that is strongly linked to the mental programming outlined in the second letter is a definite foe of successful communication.

Another core component in communication is flexibility. Many people believe that if they allow themselves to be flexible or adaptable, then they are going to reflect a personal or professional weakness and vulnerability normally associated with passiveness. This is completely false and misleading because flexibility has nothing to do with being passive. In fact, a lack of flexibility and adaptability in dealing with others reflects a strong tendency towards aggressive communication.

Assertive communication is also based on a two-way open communication channel that allows for mutual active listening, precise understanding, continuous feedback and the ability to negotiate with the other person / party so that a decision benefiting both sides is taken and acted upon. Assertiveness is based on the following 5 key principles:

1. Equality: the ability to recognize that everyone, you and the other person, has the right to express their thoughts and feelings;
2. Planning: the ability to plan a realistic agenda that strategically outlines what one wants in a mutually respectful manner;
3. Expression: the ability to use both verbal and non-verbal communication to state what is wanted in an open, honest and clear way;
4. Persistence: the ability to persist and not give up on one's realistic agenda until it is given a fair and reasonable hearing;
5. Decision making: the ability to make a decision given the factual evidence and information available at that point in time, in the best interest of all parties concerned, whilst prioritizing. To prioritize, one needs to appreciate the difference between what is urgent and important.

The art of finding a mutually acceptable solution encourages people to continue working and / or living together harmoniously and over time. Assertive communication differs from aggressive communication because aggression is about getting your own way. Aggressive communication involves little or no respect for others. It frequently ends up with people shying away from the aggressive person therefore jeopardizing the listening, understanding and feedback process that are crucial in effective communications. In the health services, the person who tends to suffer most when aggressive communication is involved is the patient. This is truly contradictory and destructive to the holistic prevention, treatment and care process because the person on whom we are supposedly channeling our energies on is the same person who ends up suffering or losing. If the aggressive communication persists, everyone ends up losing because colleagues too pull back and avoid the aggressive person. If there is no patient involved and the aggressive communication is taking place in the context of a family or team, then normally the more vulnerable or emotionally distressed person ends up suffering the most leading to a loss of valuable input and an unhealthy balance in team dynamics.

Aggressive people tend to bully and harass others, often capitalizing on the lack of time as an excuse. Bullying and harassment are unfortunately very popular where pressure to perform is high, due to numerous factors including competition, expectations, private practice and the ever growing waiting lists in the public sector.

At the other end of the communications continuum is passive / submissive communication. The objective of a passive person is not to cause any disruption or attract any attention towards him/herself. This is normally linked to a low self-esteem or confidence. Passive communication often triggers frustration in both parties and has the tendency of eventually trigger an explosive combination of the two undesirable communication styles, i.e. passive-aggressive. This is a dangerous way to communicate because when one passively bottles up thoughts and emotions over time, eventually they tend to suddenly and unreasonably explode in a highly destructive and painful manner to all concerned.

Clinical Psychologist

The whole purpose of this series of letters is for you to improve self care and achieve a healthier work-life balance. The way in which today's letter contributes to this is by helping you take some time and space to actively reflect on your preferred communication style and where necessary consider enhancing it. Sit back and consider these questions:

- When someone talks to you, do you actively listen to them and then take time to give them feedback on what you understood to reflect that you really listened and understood them?
- When you talk to someone important to you, like a family member or a patient, do you calmly ask them to tell you what they understood after you finish talking to them?
- When you want to say something important, do you consciously stop and think why, how, when, where and which skills to use and what you actually want to say, before you go ahead and speak to the other person?
- Do you genuinely believe that what you have to say is as important as what the other person has to say to you?
- When you want to deliver an important message to someone else, how empathic are you of that person's situation including emotions and personal biases?
- Do you negotiate with another person and come to a mutually acceptable decision that you then go on to respect and follow-up?

If your honest answers to the above 6 questions are predominantly negative, then you are the aggressive type. Take note and if you would like to do something about it, simply follow the instructions indirectly outlined in the questions themselves.

If you answer "yes" to the following 2 questions, then it tends to indicate a tendency towards passiveness.

- Do you often give up saying something you personally believe in because the other person shows little or no interest in you or what you have to say?
- Do you find it hard to consider creative and innovative ways to deliver your message in a different way, or to a different person, be it verbally and non-verbally?

Assertive communication is about respecting and trusting yourself to such a degree that you strategically decide to manage this complex communication process in the most competent and successful manner. It is about using your mind and your complementary multiple intelligences to enhance the potential for effective listening, understanding, giving feedback and taking decisions which are actively followed-up over time.

Time to communicate effectively is extremely important. I therefore suggest that we all seriously invest in competent communication skills and afford them the same trust and respect we look for in someone helping us invest our personal finances or addressing a serious personal problem.

Thank you and I hope you enjoy a peaceful and serene Christmas.

I will be back early in the New Year in the next edition of TheSynapse magazine with my last letter in this series focusing on self care. Next time, I plan to write about adjusting to major changes and life transitions.

Unravelling the Tangle of

by **Christian A Scerri** *MD PhD(Molecular Genetics)*
Clinical and Molecular Geneticist, Clinical and Molecular Genetics Clinic
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The Clinical Genetic Consultation

The referring physician (either the primary physician or the specialist) are usually the first to suspect the genetic basis of the condition. Though the differential diagnosis would thus have already been performed, this would usually result in either a possible number of suspect genes or a number of possible mutations within a gene and in most conditions, both of these possibilities. Thus the clinical geneticist has to further dissect the signs and symptoms of the disease so as to focus on the most probable candidate gene.

Once a candidate gene has been identified, the next step is to confirm or exclude the presence of mutations within this gene. The initial reaction to this would be that as we now have the whole of the human genome sequenced, then sequencing the whole gene should indicate the presence or otherwise of mutations. This is partly true for small genes (around 2000 base pairs e.g. beta globin – see figure 1) as a full sequencing of the gene would take a reasonably short time at an affordable cost. On the other hand, sequencing large genes (e.g. CFTR – cystic fibrosis; dystrophin – Duchenne and Beckers muscular dystrophies; pyrin gene – familial Mediterranean fever; BRCAI and BRCA II – breast and ovarian cancer) would be both time consuming as well as very expensive. Thus a cheaper and faster strategy has to be devised. Amongst stable populations that lack large and recent migrations (such as Malta), a small (1 to 4) number of mutations would usually account for almost 100% of the mutations within a particular gene of interest. This is particularly true for a number of single gene disorders listed in table 1. Thus, by utilizing techniques (also listed in table 1) that target these particular mutations, one can identify them in a reasonably short time and at a reasonable expense. The utilisation of these techniques requires prior knowledge of the molecular epidemiology of the disease in a particular population (and a full molecular characterization of the disease in the same population).

Unfortunately, in other single gene disorders where de novo mutations are the norm, this method cannot be utilized as no particular mutations would predominate amongst the rest. Typical examples of this group are the Dystrophin gene and the FBN1 gene (protein fibrillin-1) responsible for the Marfan's syndrome. In these cases the strategy would involve the low resolution screening of the whole gene in the proband, with sequencing of the areas that show a possibility of mutations. Once a mutation is characterised within the family, the specific test could then be utilised to identify this mutation in other family members.

Though these testing schemes seem to be very logical and thus should give a result in every case, this is not always true. A number of actual examples from the Clinical and Molecular Genetics Clinic, at the Medical School, St Luke's Hospital should demonstrate this.

Case 1: `The proband was a 5 year old boy with low grade anaemia, microcytosis, an elevated HbA2 level and a normal body iron level. His mother had a normal blood picture and a normal HbA2 level whilst his father had a mean corpuscular volume at the lowest end of the normal range and an elevated HbA2 level. Full sequencing of the beta-globin gene did not identify any mutations or gross deletions. Thus one was faced with the dilemma of whether this boy was a carrier for beta-thalassaemia or not.

Case 2: The proband was a 14 year old girl with symptoms typical of Familial Mediterranean Fever. From the family history, it was apparent that her father had a similar history but neither her mother nor her 16 year old sibling had any suggestive symptoms. Molecular analysis showed that the proband, her sibling and her father all carried one mutated gene, whilst her mother had no apparent mutations in the pyrin gene. Both proband and father responded well to colchicines treatment. In this case there are three dilemmas – as this is a recessive disorder, what is the most probable explanation for the seemingly dominant picture; should the second sibling be treated even though s/he has no symptoms and what type of counselling in regard to future offspring of both siblings can one give?

Case 3: This involves two brothers that were both clinically suffering from muscular dystrophy but without any previous family history of the condition. Muscular biopsy showed a severe Duchenne type in one and a less severe Becker's type in the second. Dystrophin gene analysis showed no gross deletions or mutations. The question that arises is how could a presumably identical mutation give rise to two different clinical pictures. And in the absence of a clearly identified mutation, what is the genotype and thus the carrier status of the two, apparently healthy sisters?

From the above it is clear that though genetic testing has the potential of confirming the diagnosis as well as offering the tools by which one can offer effective family counselling, there are a number of occasions (in our experience, estimated at around 20%

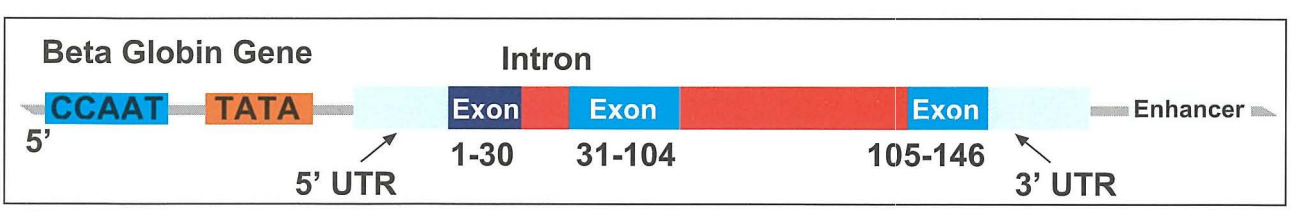

Figure 1: *The beta globin gene on chromosome 11*

Genetic Testing - Part III

of cases) where molecular genetic results would either offer no additional information on the disorder or present an even more confusing picture. It is thus imperative that further research on the molecular pathophysiology of these disorders is carried out so as to define the molecular interactions not only in the multifactorial disorders but also in those that are today considered monogenic disease. In addition, molecular epidemiological work amongst the Maltese population is further required so as to identify the particular mutations that are present in the population and thus make their identification possible in the shortest time and in the least expensive way. This requires not only the work of the molecular geneticist but also the co-operation of specialists and primary physicians to identify and refer patients as well as to participate in population-based screening programmes.

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Ethical Issues in Genetic Testing

by **Pierre Mallia** *MD MPhil PhD MRCP FRCGP*
Director, Centre for Bioethics and Patient Advocacy

The question has often been asked whether there is anything special about genetic tests – a topic known as Genetic Exceptionalism. Genetic Essentialism, is conversely, whether 'we are our genes'. Regarding the latter statement, everyone would agree that our environment has a lot to do with what we are – from the place where we live to the way we are brought up. However most scientists agree as well that there are boundaries which limit 'what we are', and these boundaries are usually genetic. If this is the case, then genetic exceptionalism is perhaps true, as a genetic test can tell us something about each and every person, which a normal test cannot. A cholesterol test can tell me whether I have hypercholesterolaemia or not; a genetic test (if developed) may tell whether I am prone to develop it. Genetic tests are thus *predictive*; moreover they may involve other people, close relatives, who may not wish to know about their status and yet still be directly affected by insurances, employment issues, etc.

UNESCO[1], WHO[2], Council of Europe[3], European Commission[4] and many other bodies have thus issued documents relating to genetic testing. Whilst UNESCO, for example takes genetic exceptionalism as a reality, the European Commission considers it as non-existent. *Yet,* even the European Commission has seen fit to issue statements and recommendations which are interestingly parallel to those of UNESCO. They admonish, for example, against discrimination based on genetic testing and recommend caution because of the special nature of the informed consent process and population screening. It is therefore difficult not to see anything special about genetic testing, especially when seen from the non-medical point of view.

Most documents are focusing on genetic testing in adults, and issue guidelines accordingly. For example, many do not envisage problems with the use of genetic tests for forensic use – creating a database with all genetic fingerprints may however be frowned upon. Conversely, many see the positive in research areas, such as pharmacogenetics, whereby we would not have to wait and see the effectiveness of a drug or its side effects before we move on to a more appropriate one for the patient.

Genetic testing can however be done at various levels. In the pre-zygote phase (defined here as the stage before the two pro-nuclei meet), one can make use of the genetic material of the second polar body to diagnose severe genetic diseases, such as Huntington's Disease. However, it is still highly debateable whether at this stage one has an individual human, once the genetic material has not yet formed. If this is allowed, one would certainly have to contemplate using technologies such as In-Vitro Fertilization for families at risk of serious genetic diseases, rather than for infertility alone.

Of course genetic tests can be done later in pregnancy and in countries, such as the UK, a severe genetic defect in a foetus can lead to a legal termination of that pregnancy. Even doctors working in the UK have to be careful, irrespective of their moral viewpoints, for whether one is in favour or not of such legislation, one still has obligations as to how to deal with someone asking for termination of pregnancy. There are issues beyond the abortion itself.

Disability rights movements have offered great opposition for this kind of 'selective abortion'. Perhaps what seems to be contentious is abortion itself, rather than the fact of aborting a fetus with a foreseen disability; even disabled people themselves may want to see their disability eliminated. It is the means rather than the end which seems to be the problem.

An outcry of this sort was seen recently in Cyprus[5], where the incidence of thalassaemia was high. The state, with the cooperation of the Orthodox Church, successfully attempted to reduce thalassaemia by obliging couples suffering from thalassaemia or who are carriers for directive counselling before marriage, and offering termination of pregnancies to married ones. Whilst the WHO condoned this as an effective public health measure, UNESCO condemned it. Indeed, from a purely academic point of view, one cannot equate measures to improve the 'health of the public', with 'public health'. They may sound similar, but they are not the same. If all persons in a population are healthy, the health of the public is fine; but there may still be public health issues – such as smoking or, in our case, environmental factors that will affect our genes. It is debatable whether a measure aimed therefore to improve spending of public funds is 'public health', although traditionally (at least locally) it is public health officials within departments of health who are involved in these decisions.

Such rhetoric as 'body spare parts' or 'selecting a baby with blue eyes', may indeed not be fictional...

When it comes to Genetic health then, we are concerned with future generations as well as ourselves. Genetic intervention can be done on somatic cells, as well on germ-line cells. Nevertheless a healthy discussion of genetic testing and engineering must keep its feet on the ground. Such rhetoric as 'body spare parts' or 'selecting a baby with blue eyes', may indeed not be fictional, but is probably far from what science wants to achieve – a cure for genetic diseases. The scope of documents and working parties therefore focuses on proper ways to store samples, define what in fact is a genetic material (not necessarily all tissue samples are), and what in fact is data. Obtaining benefit from genetic research has to be balanced with public scrutiny in order to maintain trust in science. The media may play an important role in educating the public, but often, what is not sensational does not make good news. It is curious for example, that scientists revealed news about their cloning of 'Dolly' one year before actually succeeding in doing so. But it was the *picture* of the live animal which created the sensation. The morale is to use media with caution.

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Presentation: Diclofenac potassium: powder for oral solution in sachets of 50 mg. **Indications:** Short-term treatment in the following acute conditions: post-traumatic pain, inflammation and swelling, e.g. due to sprains, post-operative pain, inflammation and swelling, e.g. following dental or orthopaedic surgery, painful and/or inflammatory conditions in gynaecology, e.g. primary dysmenorrhoea or adnexitis, migraine attacks, painful syndromes of the vertebral column, non-articular rheumatism, as an adjuvant in severe painful inflammatory infections of the ear, nose or throat. **Dosage:** Dose to be individually adjusted, lowest effective dose to be given for the shortest duration. Adults: 50 to 150 mg daily in divided doses. For dysmenorrhoea and migraine attacks: up to 200 mg daily. Adolescents aged 14 and over: 50 to 100 mg daily in divided doses. Not recommended in children and adolescents below 14 years of age. **Contraindications:** Active gastric or intestinal ulcer, bleeding or perforation; known hypersensitivity to diclofenac or to any of the excipients, to aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs); last trimester of pregnancy; severe hepatic, renal or cardiac failure. **Precautions /warnings:** Avoid use with other systemic NSAIDs including COX-2 inhibitors. Risk of gastrointestinal (GI) bleeding, perforation or serious allergic reactions; to be discontinued if these conditions occur. Risk of allergic reactions. May mask signs and symptoms of infection. Caution recommended in patients with symptoms/history of GI disease, asthma, seasonal allergic rhinitis, chronic pulmonary diseases, elderly or impaired hepatic function (including porphyria), ulcerative colitis or Crohn's disease. Caution when used concomitantly with corticosteroids, anticoagulants, anti-platelets agents or SSRIs. Caution while driving or using machines. Should not be used in the first and second trimester of pregnancy and by breast-feeding mothers. Not recommended to use in women attempting to conceive as it may impair female fertility. Combined use with protective agents to be considered in patients with history of ulcer, elderly, and those requiring low dose aspirin. Monitoring of liver function and blood counts recommended during prolonged period. Monitoring of renal function recommended in patients with history of hypertension, impaired cardiac or renal function, extracellular volume depletion, the elderly, patients treated with diuretics or drugs that impact renal function. Monitoring recommended in patients with defect of haemostasis. As Catafast contains a source of phenylalanine, may be harmful for patients with phenylketonuria. Beware of severe fluid retention and oedema. **Interactions:** Caution with concomitant use of diuretics and antihypertensives (e.g. beta blockers, ACE inhibitors), methotrexate, other NSAIDs and corticosteroids, SSRIs. Monitoring recommended for patients receiving anticoagulants, anti-platelet agents as well as blood glucose level if used concomitantly with antidiabetics. Monitoring of serum lithium and digoxin levels recommended if used concomitantly. Dose of diclofenac to be reduced in patients receiving ciclosporin. Interactions with concomitant use of quinolones antibacterials. **Adverse reactions: Common undesirable effects are:** Headache, dizziness, vertigo, nausea, vomiting, diarrhoea, dyspepsia, abdominal pain, flatulence, anorexia, transaminases increased, rash. **Rare undesirable effects are:** Hypersensitivity, anaphylactic and anaphylactoid reactions (including hypotension and shock), somnolence, asthma (including dyspnoea), gastritis, gastrointestinal haemorrhage, haematemesis, melaena, diarrhoea haemorrhagic, gastrointestinal ulcer (with or without bleeding or perforation), hepatitis, jaundice, liver disorder, urticaria, oedema. **Very rare undesirable effects are:** Thrombocytopenia, leukopenia, anaemia (including haemolytic anaemia and aplastic anaemia), agranulocytosis, angioneurotic oedema (including face oedema), disorientation, depression, insomnia, nightmare, irritability, psychotic disorder, paraesthesia, memory impairment, convulsion, anxiety, tremor, aseptic meningitis, taste disturbances, cerebrovascular accident, visual disturbance, vision blurred, diplopia, tinnitus, hearing impaired, palpitations, chest pain, cardiac failure, myocardial infarction, hypertension, vasculitis, pneumonitis, colitis (including haemorrhagic colitis and exacerbation of ulcerative colitis or Crohn's disease), constipation, stomatitis, glossitis, oesophageal disorder, diaphragm-like intestinal strictures, pancreatitis, fulminant hepatitis, bullous eruptions, eczema, erythema, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome), dermatitis exfoliative, loss of hair, photosensitivity reaction, purpura, allergic purpura, pruritus, acute renal failure, haematuria, proteinuria, nephritic syndrome, interstitial nephritis, renal papillary necrosis. 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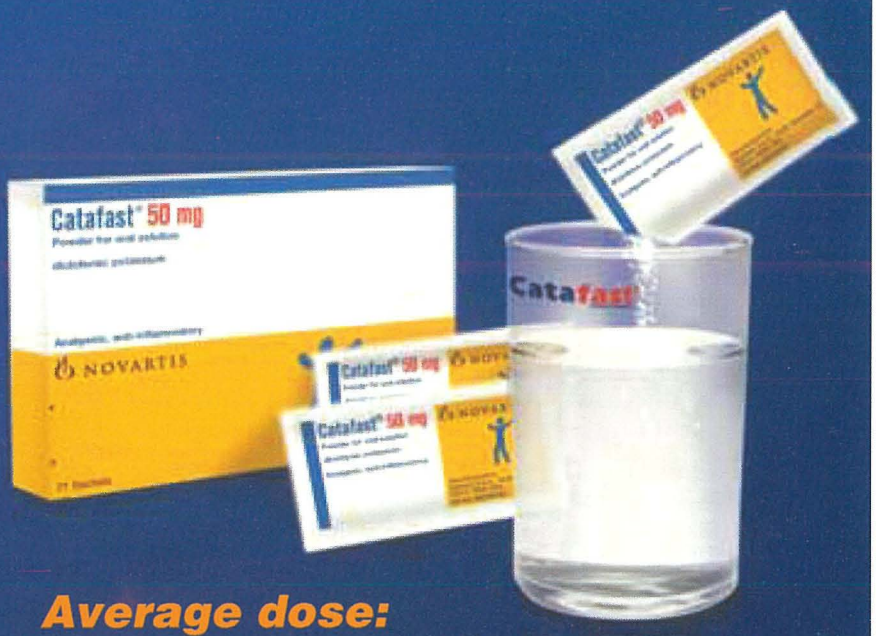

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- **Significant pain relief within 13.5 minutes** [2]
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On 2nd October 2007, TheSynapse organised another wine education event in collaboration with Attard & Co (Foodstuffs) Ltd. The event took place at Don Mesquita which is located in one of the most picturesque squares in Mdina, Mesquita square. The ambience of the actual wine bar is superb, with a strong breathtaking character holding years of maturity within its surrounding old walls, yet with a contrasting mixed freshness. Daniel and Darren, the proud owners of Don Mesquita passionately but proficiently served the guests with delightful platters that so excellently complimented the sampling of the Citra Vini range of wines that flowed throughout the evening. Sig. Albino Lanci, representing Citra Vini wines from Abruzzo, enthusiastically delivered a wine appreciation particularly on the wines that were being sampled. TheSynapse guests also had

the opportunity to delve deeper and further enrich their understanding of wine with Sig. Lanci and also with Mr Marco Vella and Mr Simon Azzopardi of Attard and Co.

If you are interested in joining any of The Synapse future wine education events please send us an e-mail mpl@thesynapse.net or phone 21453973.

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Pharmacy of Your Choice Scheme

Preparing to Implement Change and Innovation through a Pilot Study in a Cohort of Community Pharmacies

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The preparations for the implementation of the Pilot study of the POYC Scheme are moving at a fast pace and are already giving early indications of positive uptake by the patients and community pharmacists.

These preparations are focused at the public and pharmacy level, consisting primarily of patient registration, and at the organizational level, through the Standing Advisory Committee (SAC) to establish the Information and Communication Technologies (ICT) supported systems and practices. Preparations are also underway to establish the intermediary dedicated store together with the logistics, to ensure timely supply of medicinal needs to the individual pharmacies according to accepted standards.

Important meetings have been held at the Professional Centre, the seat of the Malta Chamber of Pharmacists, for all pharmacists in the POYC and specifically for pharmacists and owners respectively. All meetings were addressed by the SAC chairman and members, who also answered questions and explained further plans for the pilot study and subsequent national implementation. Following the initiation of the patient registration, there was also healthy interchange, between the implementers and the planners resulting in cross fertilization of ideas and proposals based on the pharmacists' own experiences. All of this is expected to contribute to the effective implementation of the POYC pilot study and eventually, the scheme at national level.

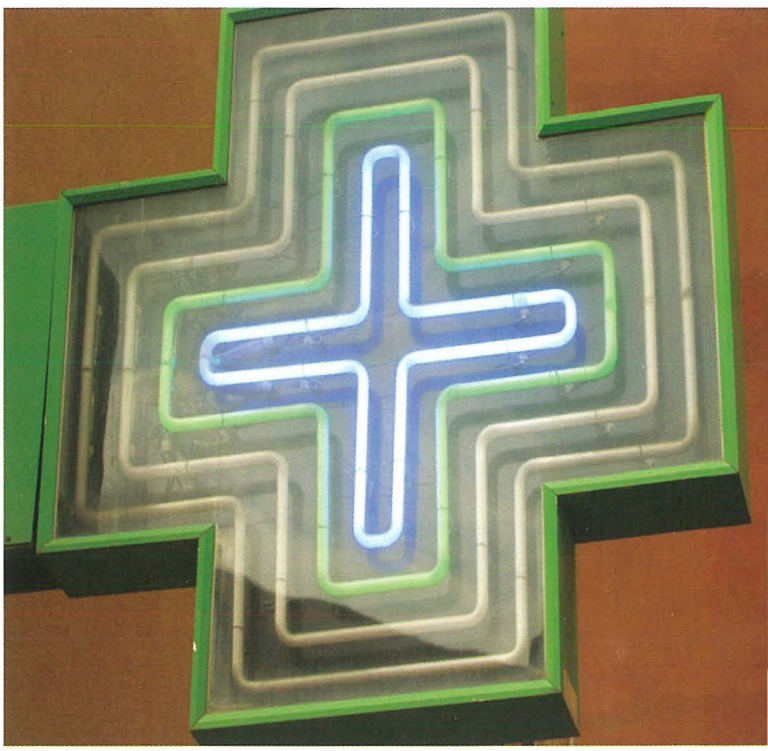
Patient Registration – *an important data collecting exercise*

In the last week of September, the Health Division invited all those patients (over 6000, schedule 5 and diabetic patients) entitled to receive NIIS medicines, who are usually served by the Mosta Health Centre Pharmacy, to collect a POYC registration form from the Mosta Health Centre or the pharmacies in the pilot project area (representing the Mosta Health Centre 'catchment' area).

Although patients have been allowed to register in the Mosta Pharmacies, these will not be participating in the pilot study but shall continue to be served by the Mosta Health centre pharmacy.[1]

To register, patients have been asked to present their identity card, an official list of disease/s or condition/s and the medicines entitlement document.

The preliminary results of the response by patients reflected expectations and necessitated an extension of the original deadline (13th October) to 31st October



2007. This extension reflected one of the recommendations arising from the meetings held with the pharmacists.

Meetings for Pharmacists in the POYC project – *ensuring continuity between development, dissemination and implementation*

Three meetings were held in September and October. The main objectives of these meetings were to ensure continuity between development, dissemination and implementation of the POYC project[2] and to give a clear picture to pharmacists of how the new practice model is to be integrated into current reality.[3]

All pharmacists practicing in the POYC participating pharmacies were invited to a meeting held in the first week of September. They were addressed by the SAC Chairman, on the preparations which were in place to implement the pilot study and in particular on patient registration, focusing on the patient registration form, the elements of which were discussed in detail. The logistics referring to the actual patient registration were also discussed.

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Pharmacy of Your Choice Scheme

Preparing to Implement Change and Innovation through a Pilot Study in a Cohort of Community Pharmacies

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Other matters under discussion included: aspects of the phases of the POYC implementation according to the Memorandum of Understanding, which is envisaged to be a significant driver of practice change in community pharmacy and which, in the long term should become progressively more focused on community pharmacy services and on the pharmacists' role in quality use of medicines, health promotion and preventive care; the organizational needs in individual pharmacies including refurbishments to accommodate more patients at one time, more stock and computer hardware, more human resources – this may involve changes to the pharmacy layout and significantly, *practice developments to reflect patients' needs*. The NHS system, entitlement and other policies were also addressed. Pharmacists were also invited to participate actively in focus and working groups being set up by the Chamber to address the different but related areas under discussion.

Meetings for Pharmacists in the Pilot Study

During October, two meetings were held specifically for pharmacists practicing in the pilot pharmacies. Since *a system-wide approach*[4] is being applied in the implementation of the POYC pilot, pharmacy owners were also invited to the meetings to ensure the sustainability of such a project at the different levels within community pharmacy.

Focus Groups

The first focus group has been specifically set up consisting of pharmacists who are owners and are also managing pharmacists who have adhered to the POYC but are *not* in the pilot study. The members of the focus group were also invited to the meetings for the pilot pharmacists and contributed to the discussions and decisions taken at the meetings, basing on the particular experience, interests and backgrounds which they share with their colleagues.

ICT in Community Pharmacies – *using computer systems and other technologies to assist in pharmacy practice*

As has already been stated[5], the POYC shall be fully ICT based, not only to ensure good stock control, but to allow the community pharmacists to contribute effectively to the improvement of safety, quality and efficiency in the delivery of such an important primary health care service as the dispensing of NHS medicines, with a particular emphasis on patient medication records. This shall render important patient data and information readily available and useable by pharmacists for better patient care within the safeguards of the data protection act.

Meetings of the SAC with the Malta Information Technology Services and Training Ltd. (MITTS) consultants are ongoing to develop the patient database which shall include the individual medication record, to render the software as user friendly as possible and to develop the subsequent web-based system for national implementation.

An important meeting was held with the pharmacists in the pilot study where besides updates and discussions on the ongoing patient registration and on further developments of ancillary preparations for the implementation of the pilot study, the computerisation of community pharmacies was also addressed. During the meeting, a MITTS representative presented the software which is being developed for use in the pilot study. The matter was discussed at length during the meeting with the pharmacists, the focus group and the SAC members.

The objective is thus to fully computerize the community pharmacies in the POYC scheme (99% of all pharmacies in Malta and Gozo) as provided for by the POYC Memorandum of Understanding.[6]

The meetings have shown that pharmacists are being proactive and are motivated to implement the pilot study with patients being at the centre of their attention.

This reflects the existent international and European trends. A recent pilot survey[7] held by the Pharmaceutical Group of the European Union, of which the Chamber is a member, on behalf of the EU Commission's DG Information and Society, out of seven European countries, one being a non EU member state (Croatia), five (Austria, Croatia, Denmark, Ireland and Sweden) had 100% of pharmacies which were computerized, one (Portugal) had 90.6% and one (France) had more than 99%.

Leonardo project's supported visit to UK – study visit to *Independent Pharmacies which are NHS contractors*

Preparations are well advanced to implement a structured visit (15 – 22nd November 2007) by a group of pharmacists and owners to NHS community pharmacy practices in the UK. This visit is being coordinated by the Chamber with the support of the National Pharmaceutical Association (UK) and the Pharmacy Section of the Chamber for Small and Medium Enterprises and is funded by the EU Leonardo Projects in collaboration with the Parliamentary Secretary for Small and Medium Enterprises in the Ministry for Competitiveness and Communications.

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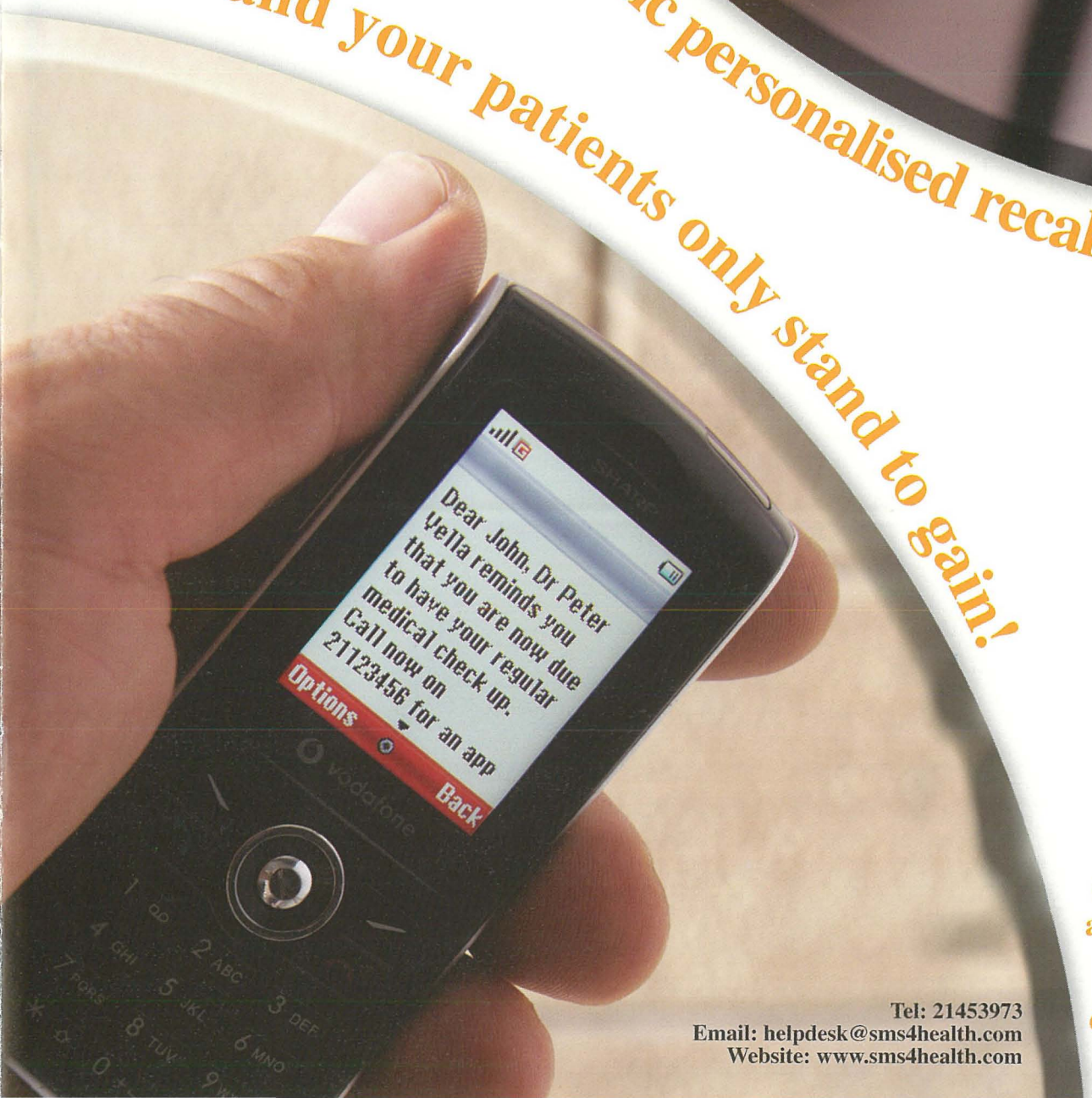

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If enough blood pressure control is not obtained by administering losartan once a day, it may be advisable to split the dose into two parts or increase it to 100 mg once a day. The maximum reduction of blood pressure is gained in 3-6 weeks after treatment is initiated. *Reduction in the risk of stroke in hypertensive patients with left ventricular hypertrophy* - The usual starting dose is 50mg losartan once daily. A low dose of hydrochlorthiazide may also be added and/or the dose of losartan may be increased to 100mg daily based on the patient's blood pressure response. *Renal protection in type 2 diabetic patients with nephropathy* - The usual starting dose is 50mg once daily. The dose may be increased to 100mg once daily according to blood pressure response from one month after initiation of therapy onwards. Losartan may be administered with other antihypertensive agents such as diuretics, calcium channel blockers, alpha- or beta- blockers and centrally acting agents, as well as with insulin and other commonly used hypoglycaemic agents such as sulphonylureas, glitazones and glucosidase inhibitors. An initial dose of 25 mg shall be used once a day for patients who are dehydrated, e.g. who have been treated with high doses of diuretics, patients with moderate to severe renal impairment, patients on dialysis and for those who have a history of impaired liver function. It is not always necessary to reduce the initial dose in elderly patients, patients with impaired liver function or patients with mild renal impairment. Losartan may be administered with other hypertensive drugs. Losartan may be taken with or without food. *Dosage for children:* Lopress is not intended for children. **Contraindications:** Hypersensitivity to losartan or any of its constituents. **Special warnings and special precautions for use:** *Allergy* - Allergic edema. *Hypotension and imbalance in blood electrolytes* - For patients who are dehydrated (e.g. those who have been treated with high doses of diuretics) symptoms of hypotension may appear. Such dehydration should be corrected before the administration of losartan or a lower initial dose of losartan administered. *Impaired liver function* - A lower initial dose should be considered for patients with a history of impaired liver function, as the pharmacokinetics literature has revealed a significant increase in plasma concentration for patients with cirrhosis *Impaired renal function* - As a result of the blocking effect of the renin-angiotensin system, changes in renal function, including renal failure, have been recorded for sensitive individuals; such changes may subside if treatment is discontinued. Other drugs, that may influence the renin-angiotensin system, can increase urea and creatinine in the serum in patients with stenosis in one or both renal arteries. Similar effects have been recorded for losartan; such changes in renal function may subside if treatment is discontinued. No potassium supplements or potassium-preserving diuretics should be used at the same time as losartan without consulting a doctor. *Race (Black patients)* - There is no evidence that losartan reduces the risk of stroke in black patients with hypertension and left ventricular hypertrophy. **Interaction with other medicinal products, other forms of interaction:** Not known. Compounds already tested include: hydrochlorothiazide, digoxin, warfarin, cimetidine, phenemal, ketoconazole and erythromycin. Rifampicin and fluconazole have lowered the concentration of the active metabolite in blood. The clinical significance of such interaction has not been assessed. As applies to other drugs that block angiotensin, or its effects, the simultaneous use of potassium-preserving diuretics (e.g. spironolactone, triamterene and amiloride), potassium supplements and salts containing potassium may cause a rise in potassium concentration in the blood. As applies to other blood-pressure-reducing drugs, the blood-pressure-reducing effects of losartan may decrease with simultaneous administration of the drug indomethacin. **Pregnancy and lactation:** *Pregnancy* - In spite of the lack of experience in the use of the drug for pregnant women, studies on animals have revealed that losartan causes fetal damage, abortion and neonatal deaths; this is presumably caused by the pharmacological effects on the renin-angiotensin system. In human fetuses, blood flow through the kidneys, dependent on the development of the renin-angiotensin system, starts in the second trimester of the pregnancy, thus there is increased danger for the fetus if the drug is administered during the second or third trimester of the pregnancy. Drugs that directly affect the renin-angiotensin system may cause fetal damage, or even abortion, if they are administered during the second or third trimester of pregnancy. If a woman becomes pregnant, treatment with losartan should be discontinued as soon as possible. *Lactation* - It is not known whether losartan is excreted in human breast milk. However, a significant amount of losartan, and its active metabolite, has been detected in rats' milk. Due to possible undesirable effects on a breastfed baby, the decision should be taken whether breastfeeding should be discontinued or the administration of the drug with a view to the importance of the drug for the mother. **Effects on ability to drive and use machines:** Lopress has no known effect on your ability to drive and use machines. **Undesirable effects:** Undesirable effects are usually mild and temporary. *Common* (>1%) - Dizziness, hypotension, fatigue, vertigo. *Rare (0.1-1%)* - Postural hypotension. *Very rare (< 0.1%)* - Hypersensitivity: Anaphylaxis, angioedema including inflammation of the larynx and the vocal cords that closes the respiratory tract and/or swelling of the face, lips, pharynx and/or tongue. Some such patients have previously suffered angioedema caused by other drugs, including ACE blocking agents. Angiitis has infrequently been seen, including purpura, which is similar to both Henoch's purpura and Schönlein's purpura, with abdominal pains, gastrointestinal hemorrhage, arthralgia and nephritis. Digestive system - Diarrhea, hepatitis, impaired liver function. Blood - Anemia. Skin - Urticaria, pruritus, rash. Musculo-skeletal system - Myalgia, arthralgia. Nervous system - Migraine. Respiratory system - Cough. Changes in blood values - Raised potassium levels in blood (>5.5 mmol/l (ca. 1.5%); slight increase in liver enzymes was rare and usually receded when treatment was discontinued. **Overdose:** There is limited information on human overdosing. The most likely sign of overdosing is hypotension and tachycardia; bradycardia might occur. Supportive treatment should be started if hypotension becomes symptomatic. Neither losartan nor the active metabolite can be removed by hemodialysis. **Marketing Authorisation Holder:** Actavishf. Reykjavikurvegi 76-78220 Hafnarfjordur, Iceland

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Ancient Egyptian Medicine
Part II – Surgery

by **Charles Savona-Ventura** *MD DScMed FRCOG AccrCOG MRCPI*
Professor of Obstetrics & Gynaecology, Faculty of Medicine & Surgery, University of Malta

The Ancient Egyptian surgeons were apparently well versed with the principles of surgical treatment of traumatic injuries and other disorders. Much of the details of surgical practice can be gleaned from the *Edwin Smith Papyrus* [transcribed text can be seen at *http://www.reshafim.org.il/ad/egypt/timelines/topics/smithpapyrus.htm*]. This papyrus dates to 1550 BC and was found in the tomb of a physician. It is now housed in the New York Academy of Sciences.

The text in this papyrus gives an insight on the Egyptian doctor's approach to examining the patient, leading to a diagnosis and subsequent treatment. The treatise is systematically organized in an arrangement of cases, which begin with injuries of the head and proceed downward through the body, like a modern treatise on anatomy. The treatment of these injuries is rational and chiefly surgical; there is resort to magic in only one out of the forty-eight cases preserved. Each case is classified by one of three different verdicts: (1) favourable, (2) uncertain, or (3) unfavourable. The third verdict, expressed in the words, 'an ailment not to be treated,' is found in no other Egyptian medical treatise. The *Edwin Smith Papyrus* opens with eight texts concerning head wounds, followed by nineteen treatments of wounds to the face (forehead, eyebrows, nose, cheeks, temples, mouth and chin), six descriptions of how to deal with injuries to throat and neck, five dealing with collar-bones and arms, and seven with chest complaints.

The papyrus suggests a highly sophisticated surgical practice which included the management of cranial injuries: *If thou examinest a man having a gaping wound in his head, penetrating the bone, smashing his skull, (and) rending open the brain of his skull, thou shouldst palpate his wound. Shouldst thou find that smash which is in his skull like those corrugations which form in molten copper, (and) something therein throbbing (and) fluttering under the fingers like the weak place of an infant's crown before it becomes whole-when it has happened there is no throbbing (and) fluttering under the fingers until the brain of his (the patient's) skull is rent open-(and) he discharges blood from both his nostrils, (and) he suffers with stiffness in his neck. Thou shouldst say concerning him: "An ailment not to be treated." Thou shouldst anoint that wound with grease. Thou shalt not bind it; thou shalt not apply two strips upon it: until thou knowest that he has reached a decisive point* [*Edwin Smith Papyrus: case 6*].

Besides traumatic injuries, the surgeon also dealt with malignant tumours including breast cancer: *If thou examinest a man having tumors on his breast, (and) thou findest that swelling have spread over his breast; if thou puttest thy hand upon his breast upon these tumors, (and) thou findest them very cool, there being no fever at all therein when thy hand touches him ; they have no granulation , they form no fluid, they do not generate secretions of fluid, and they are bulging to thy hand . Thou shouldst say concerning him: "One having tumors. An ailment with which I will contend." There is no treatment. If thou findest tumors in any member of a man, thou shalt treat him according to these directions* [*Edwin Smith Papyrus: case 45*]. Uterine cancer is mentioned in the Kahun and the Ebers texts: *Thou shalt say as to it: "What is the smell that thou emittest (lit. causest to be perceived)?" If she says to thee: "I am emitting the smell of roast meat," thou shalt say as to it, it is nemsu uteri. Thou shalt do for it (thus): fumigate her with every sort of roast meat, the smell of which she emits* [*Kahun Papyrus: case 2*]. *Another for one in whom there is eating on her uterus in whose vagina ulcers have appeared* [*Ebers Papyrus*]. At least 39 mummies suffering from cancer have been identified.

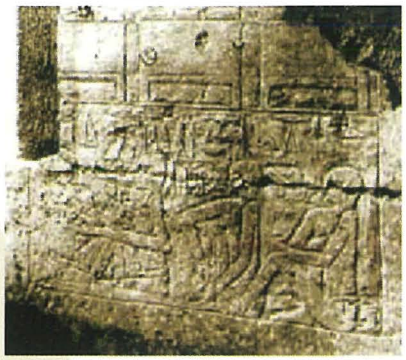
The complication of tetanus or lockjaw was also identified and deemed untreatable: *If then, thou findest that the flesh of that man has developed fever from wound which is in the sutures of his skull, while that man has developed ty' from that wound, thou shouldst lay hand upon him. Shouldst find his countenance is clammy with sweat, the ligaments his neck are tense, his face ruddy, his teeth and his back, the odor of the chest of his head is like the bkn (urine) of sheep[7], his mouth is bound, (and) both his eyebrows are drawn, while his face is as if he wept. Thou shouldst say regarding him: "One having a gaping wound in his head penetrating to the bone, perforating the sutures of his skull; he has developed 'ty', his mouth is bound, (and) he suffers with stiffness in his neck. An ailment not to be treated"* [*Edwin Smith papyrus: case 7*]. The *Ebers Papyrus* also describes the treatment for abscesses: *"Instructions for a swelling of pus". A disease that I treat with knife-treatment. If anything remains in pocket, it recurs"*[*Ebers papyrus*]. The *Edwin Smith Papyrus* recommends the suturing of non-infected wounds with a needle and thread. Raw meat was applied on the first day, subsequently replaced by a dressing of astringent herbs, honey and butter or bread.

continues on page 20

Ancient Egyptian Medicine

Part II – Surgery

continued from page 19

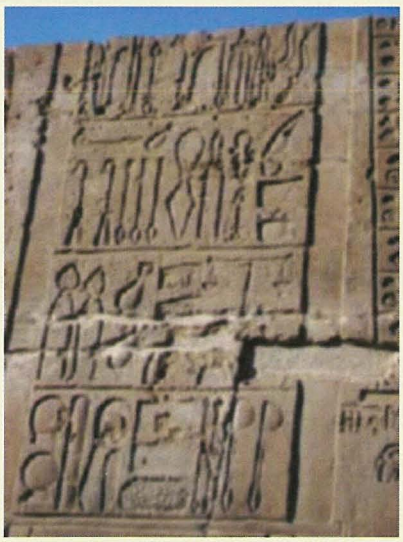


Surgical procedures are also depicted in a number of tomb reliefs. The Tomb of Ankh-Mahor, known also as the Tomb of the Physician, at Saqqara, has a relief showing two men receiving some form of treatment – manicure, massage or surgery – to their extremities. The accompanying text implores the physician: *Do not let it be painful*, to which the physician responds: *I do (it) so you will praise it, (O) king!* Similarly a relief

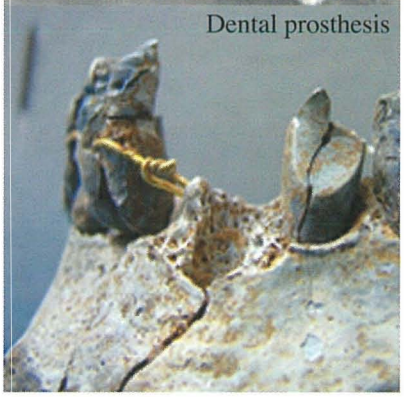
depicted on the tomb of physician Sesi at Saqqara dated c.2400 BC depicts the performance of a circumcision on adolescents with the hieroglyphs saying: *The ointment is used to make it acceptable*. This has been interpreted as meaning that a local anaesthetic may have been used. Poppies *(Spn)* are occasionally mentioned in Egyptian medical literature, and the physicians must have had a pretty good idea of their properties. Female circumcision seems to have been practised occasionally: *... I was circumcised, together with one hundred and twenty men, and one hundred and twenty women ...* [*The Offering of Uha, c. 2400 BC*].

The care given to the injured in battle is depicted on a relief in the Great Temple of Abu Simbel.

The *Edwin Smith Papyrus* lists lint, swabs, bandage, adhesive plaster (x-formed), postural support devices, surgical stitches and cauterization. The Cairo Museum has a collection of surgical instruments – including scalpels, scissors, copper needles, forceps, spoons, lancets, hooks, probes and pincers; some dating to the VI Dynasty discovered in the Tomb of Oar at Saqqara, described as the senior physician of the royal court. The use



Toe prosthesis



Dental prosthesis

of surgical instruments is also clearly mentioned in the *Ebers Papyrus*: *thou shalt perform an operation for it, the same being split with a knife and sized with a....(? forceps).*

A collection of 37 instruments are engraved on the wall in the temple of Sobek at Kom-Ombo (dated 2nd century BC). These include bone saws, suction cups, knives and scalpels, retractors, scales, lances, chisels and dental tools. Trepanation, while not mentioned in any of the medical papyri, seems to have been performed occasionally using mallet and chisel, since 14 skulls, some of which were healed or partially healed, have been found. Limb amputations were also performed, the victims being assisted by the use of prosthesis. One mummy had three substitute teeth skilfully tied to the abutment teeth with fine gold wire.

PRESCRIBING INFORMATION

NAME OF THE MEDICINAL PRODUCT Tavanic 500 mg film-coated tablet. PHARMACEUTICAL FORM Film-coated tablet. Therapeutic indications: Acute sinusitis;

Acute exacerbations of chronic bronchitis; Community-acquired pneumonia (CAP); Complicated urinary tract infections including pyelonephritis; Chronic bacterial prostatitis; Skin and soft tissue infections. Posology and method of administration Tavanic tablets are administered once or twice daily. Tavanic tablets should be swallowed without crushing and with liquid. The tablets may be taken during meals or between meals. Tavanic tablets should be taken at least two hours before or after iron salts, antacids and sucralfate administration since reduction of absorption can occur Contraindications Hypersensitivity to levofloxacin, other quinolones or excipients. Epilepsy; History of tendon disorders related to fluoroquinolone administration; in children or growing adolescents; Pregnancy and breast-feeding Special warnings and special precautions for use Cease treatment immediately if tendonitis is suspected. If pseudomembranous colitis is suspected, Tavanic tablets must be stopped immediately and patients should be initiated appropriate treatment. Use with extreme caution in patients predisposed to seizures, such as patients with pre-existing central nervous system lesions, concomitant treatment with fenbufen and similar non-steroidal anti-inflammatory drugs or with drugs which lower the cerebral seizure threshold, such as theophylline. Caution in patients with actual or latent glucose-6-phosphate dehydrogenase. Dosage adjustment required in patients with renal impairment – refer to Summary of Product Characteristics. Avoid strong sunlight or to artificial UV rays (e.g. sunray lamp, solarium), Driving/using heavy machinery –caution required. Interactions with other medicinal products and other forms of interaction Iron salts, magnesium- or aluminium-containing antacids, Sucralfate Theophylline, fenbufen or similar non-steroidal anti-inflammatory drugs Probenecid and cimetidine Cyclosporin Vitamin K antagonists. Undesirable effects TAllergic reactions-Pruritus, rash,urticaria, bronchospasm / dyspnoea, angio-oedema, hypotension, anaphylactic-like shock, photosensitisation. Severe bullous eruptions such as Stevens-Johnson syndrome, toxic epidermal necrolysis (Lyell's syndrome) and erythema exsudativum multiforme. Muco-cutaneous, anaphylactic /- oid reactions may sometimes occur even after the first dose. Gastro-intestinal, metabolism- Nausea, diarrhea, anorexia, vomiting, abdominal pain, dyspepsia, bloody diarrhoea which in very rare cases may be indicative of enterocolitis, including pseudomembranous colitis, hypoglycaemia, particularly in diabetic patients. Neurological - Headache, dizziness/vertigo, drowsiness, insomnia, paraesthesia, tremor, anxiety, depression, psychotic reactions, agitation, confusion, convulsion, hypoaesthesia, visual and auditory disturbances, disturbances of taste and smell, hallucinations. Cardiovascular- Tachycardia, hypotension, shock (anaphylactic-like):QT-interval prolongation. Musculo-skeletal Arthralgia, myalgia, tendon disorders incl. tendinitis (e.g. Achilles tendon) Tendon rupture (e.g. Achilles tendon); this undesirable effect may occur within 48 hours of starting treatment and may be bilateral. Muscular weakness, which may be of special importance in patients with myasthenia gravis. Rhabdomyolysis. Liver, kidney increase in liver enzymes (e.g. ALT / AST), increase in bilirubin, increase in serum creatinine. liver reactions such as hepatitis, acute kidney failure (e.g. due to interstitial nephritis). Blood Eosinophilia, leucopenia, neutropenia, thrombocytopenia, Agranulocytosis. Haemolytic anaemia, pancytopenia. In addition Asthenia, fungal overgrowth and proliferation of other resistant microorganisms. Allergic pneumonitis, fever. Other undesirable effects which have been associated with fluoroquinolone administration include: extrapyramidal symptoms and other disorders of muscular coordination; hypersensitivity vasculitis; attacks of porphyria in patients with porphyria. MARKETING AUTHORISATION HOLDER Aventis Pharma AEBE, 2, Aftocratoros Nicolaou street, GR-17671 Athens, Greece Tel.: 0030 210 90 01 600 Tel. Malta: 00356 21493022. MARKETING AUTHORISATION NUMBER :MA 082/03502.
LEGAL CATEGORY: POM
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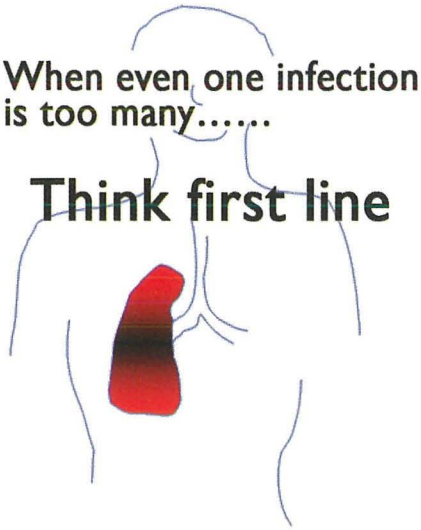

Brief Prescribing Information
ORELOX Children and infants 40 mg / 5 ml Composition for 100 g: **Active ingredient:Cefpodoxime proxetil** 6.261 g quantity corresponding to **cefpodoxime** 4.8 g. 5 ml of the reconstituted solution contains 40 mg cefpodoxime.. **Pharmaceutical form:** Granules for oral suspension. **Pharmaco-therapeutic class** Antibacterial antibiotics belonging to the beta-lactam family: cephalosporins **Therapeutic indications** This medicine is indicated in children for treatment of certain bacterial infections caused by susceptible organisms, such as bronchitis, sinusitis, tonsillitis, pharyngitis, pneumonia, ear infections, skin infections, urinary system infections. **Contra-indications:** Hypersensitivity to cephalosporins • in case of phenylketonuria, because of the presence of aspartame. **Special Warnings and special precautions:** Hypersensitivity reactions are to be reported • Allergy to cephalosporins may be observed (in 5 to 10% of cases) in subjects who are allergic to antibiotics of the penicillin family. • If diarrhea occurs, it could be exceptionally symptomatic of pseudomembranous colitis • Because of the presence of lactose, sorbitol and saccharose, this medicine should not be used in patients with fructose intolerance, congenital galactosemia, glucose and galactose malabsorption syndrome, lactase deficiency or sucrose-isomaltase deficiency. **Precautions**• in case of severe renal impairment, it may be necessary to adjust the dosage according to creatinine clearance • In newborn infants under 2 weeks of age, this medicine should not be used. • Since this medicine contains 66.55 mg of sodium per 50 ml vial, this must be taken into account in persons following a strict low-salt diet. • Since this medicine contains 2.17 mg of potassium for a 5 ml dose of reconstituted suspension vial, this must be taken into account in persons following a low-potassium diet. • This medicine can produce a false positive reaction in certain laboratory tests (screening for glucose in the urine with reducing agents, and Coombs' tests). **Interactions with other drugs and other forms of interactions** Antacids of the mineral type and H2 blockers such as ranitidine, which cause an increase in gastric pH, should be taken 2 to 3 hours after Orelox administration. **Pregnancy and lactation:** Not Applicable. **Effects on ability to drive and to use machines:** Not applicable. **List of excipients liable to produce some risks in some patients** Lactose, saccharose, sodium, aspartame, potassium, sorbitol. **Dosage** The usual dosage in children is 8 mg per kg per day, in 2 intakes separated by a 12-hour interval. In patients having severe renal impairment, the period between each administration must be adjusted. **Administration:** Oral use. Take the suspension during meals. **ADVERSE REACTIONS:** Mainly:- Diarrhea, vomiting, abdominal pain. - An extensive cutaneous eruption, angioedema. More rarely: - gastrointestinal manifestations rare cases of enterocolitis with bloody diarrhea have been reported as well as rare cases of pseudo-membranous colitis - Hepatic manifestations: Moderate rise in liver enzyme levels - Allergic manifestations: Skin eruptions, pruritus, urticaria and anaphylactic shock. - Skin manifestations: Miscellaneous skin rashes localized bullous eruption, erythema multiforme, Stevens-Johnson syndrome and Lyell syndrome. - Headache. - Sensation of dizziness. - Moderate rise in blood creatinine. - Hematologic manifestations: Decreased hemoglobin level, thrombopenia, neutropenia, hypereosinophilia, exceptionally agranulocytosis. **STORAGE:** Store below 25 °C. After first opening, the reconstituted suspension can be used for 10 days if stored between 2 °C and 8 °C. Keep out of the reach of children. **Marketing Authorization Holder: Sanofi-Aventis Malta Ltd. Triq Kan. K. Pirotta B'Kara BKR 1114 Malta. MA Number: 082/02002. PRESCRIPTION ONLY MEDICINE. MT.CEF.07.08.01**
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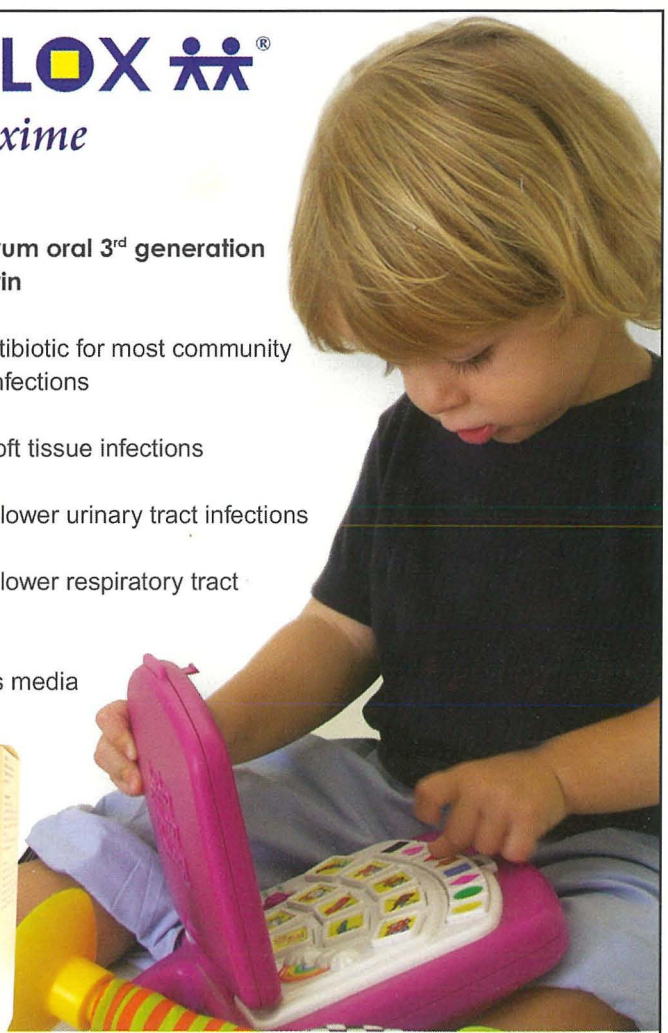


A Cyclist

by **Marika Azzopardi**

Karen Xerri seems a delicate woman at face value. Her slim, svelte and dainty app she actually cycled her way through 2,300 km, making headway from Bucharest in did, one of a team of like-minded and determined people wh

She has always liked cycling, doing Sunday rides and perhaps taking the opportunity to hop on a bike every other day or when her busy life of mum and pharmacist leaves her any time to release pent-up energy. But now, she beams as she states, "Now I can really claim that I am a cyclist, and a seasoned one at that too!Ē

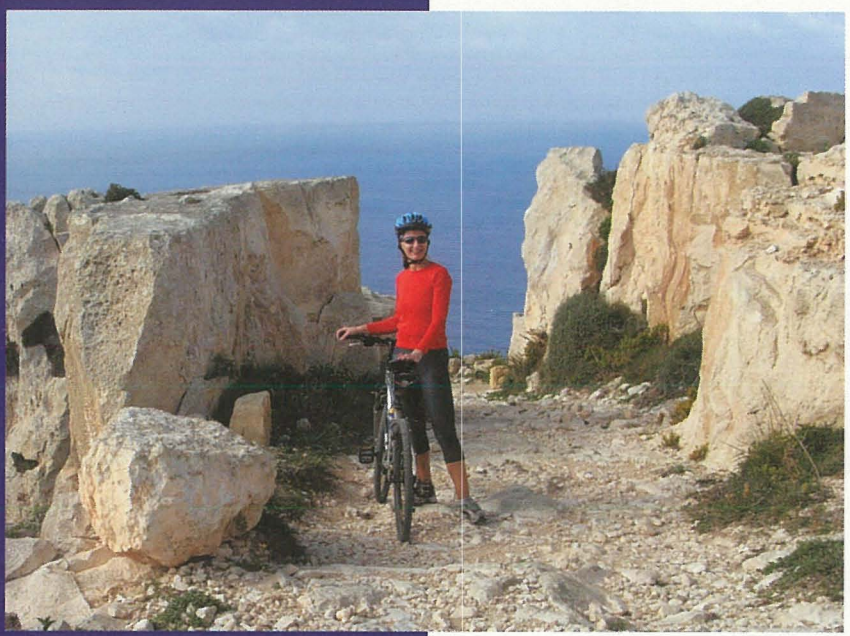
There were two main reasons why she decided to take up the challenge of participating in the Life Cycle marathon. Firstly because she likes cycling, but secondly because her father is also a renal patient and she can well understand the purpose of the fundraising challenge.

"But, there is a huge difference between being a Sunday cyclist and being a marathon cyclist. Training was tough in a big way. We had 17 weeks of training prior to the actual marathon, a gradual build-up to four hours of cycling on a daily basis, six on Saturdays and a total of eight on Sundays."

This meant a wake-up call at four in the morning, when Karen would take the opportunity of riding until eight o'clock. "I chose to ride early in the morning, so as to avoid disrupting family life. By reducing sleeping hours, I could keep abreast with the rest of my responsibilities. Naturally I missed out on sleep!."

Missing out on sleep wasn't the only hardship she faced. Ideally cycling through straight routes meant opting for by-passes, and the longer roads around Malta. It also meant riding 80 km on a daily basis, 120 km on Saturdays and a grand 160 km on Sundays. Cycling through the midday heat was the hardest of all.

"I had all the support in the world from my husband, and all the family and my two kids encouraged me on in their own way, even though they are still six and nine. Nobody really knew what I was in for... admittedly,



Just days before leaving Malta ... she suffered a spinal injury when she fell off the bike and fractured her coccyx

neither did I. We were constantly being told it was no fun trip, but you have to be there to appreciate this."

By the time the marathon loomed, her body had grown used to the training regimen. Just days before leaving Malta however, she suffered a spinal injury when she fell off the bike and fractured her coccyx. "It was a shock. First of all I was terrified I would lose mobility and I was in extreme pain. However my doctor who is an athlete himself, urged me to get moving and that I did. Slowly but surely I made it back on the bike to the incredulity of the doctors. By the time the marathon arrived, I was free from the excruciating pain and didn't suffer any repercussions.

Perhaps it was all in the mind – I was so geared up towards the marathon, that I willed myself to get well."

However, not being an athlete, being a female and being one of the older participants on the challenge meant the experience was tougher on her. En route through eastern Europe, she and her team cycled for 8 hours which could stretch to 10 hours a day. The longest day equaled 12 hours of cycling through 265 km, with the team arriving at destination at 22.00 hours.

The regimen was tough. "We were constantly accompanied by our back-up crew which included the kitchen crew, the medical team made of doctors and physiotherapists and the logistics team. The latter had made a pre-visit to the route in April and would drive ahead of us to sign the planned route up to the destination of the day. Five vans would be spread out to keep an eye on us as we cycled. We would stop every two hours or so at check points to visit the bathroom, eat, get medical assistance, a check-

for Life

earance belies the truth behind the delicate surface. One would never imagine that Romania, through Ukraine and Poland, to finally reach Berlin in 13 days. But she o last August participated in the Life Cycle 2007 marathon.

up and massage. After 20 minutes, we would start off again."

They were told that it would be no holiday. Riding through Romania and Ukraine was something she wasn't prepared for. With third world conditions in certain parts of the rural areas, coupled by extremely bad roads, cycling was not only difficult but hazardous. "At the end of a long day, we would arrive at destination to find that we had to wash the mud off in a cold shower. The rural areas just don't have the infrastructure and it was all quite a shock for me. In hindsight I'm amazed at myself. However, coming through the experience was one big adventure and a personal achievement that gave me unequalled satisfaction."

Being part of team also meant learning about team spirit, making new friends and bonds. Although they were not in a race, they did have to finish within a certain number of hours, meaning they had to try and keep up the pace of cycling at 20km an hour.

Back home, she arrived to the enthusiastic faces of all her family, including her children's, who welcomed her with the declaration that her stay away was way too long. "We had prepared them obviously, but they are too young to realize what it was like not to have mummy there, at all, for two whole weeks, especially since I had never been away. However, I know that in their own way they are proud of me and one day, when they grow older, they will appreciate what it was like to be there. I'm already urging my daughter to do it herself one day!"

Occupational Therapy in Local Psychosocial Practice

by **Catherine Galea**
Head – Occupational Therapy Department
Mount Carmel Hospital

Man is an active being whose development is influenced by the use of purposeful activity.[1] Life is a process of continuous adaptation which brings about a change in function, and which promotes social and self-actualisation. Occupational Therapy is based on the belief that purposeful activity, including its interpersonal and environmental components, may be used to prevent and mitigate dysfunction. Mental illness is unfortunately highly stigmatised, however with a combined effort to ease the suffering and empower maximal potential, modern day society may gradually become more tolerant and willing to support and appreciate efforts made by the individual who is experiencing psychiatric problems.

Definition

Occupational therapy (OT) is defined as the art and science of using selected theories as a guide for collaborating with a client. Occupational therapists (OTs) assess the individuals' abilities to engage in the performance of life tasks and if necessary assist them in acquiring the knowledge, skills and necessary attitudes.[2] OT is concerned with an individual's potential to be involved in activities which one has to perform in order to meet one's own needs and to be a contributing member of a community.

OT objectives

The brief phrase, 'GIVING SENSE TO LIFE' with its very expressive message is the chosen motto for OT in Malta. Working with persons with mental health problems, we often encounter individuals leading a poor quality of life. Mental health disorders have a wide range of manifestations. The psychosocial professional encounters many relatively young persons who may spend the peak hours of the day in bed or roaming around and smoking, feeling a sense of apathy with no objectives and guidance. On the other hand, people with mental health problems could be very stressed with obsessions and indecisions, or highly agitated and fearful. In both scenarios, in part because of the limited support, the patients experience difficulties to honour commitments, manage money and plan time. How meaningful can such a person's life be? A mentally ill person often finds it difficult to appreciate the positive aspects of a situation or take control of challenging circumstances.

The role of the OTs is to recognize these functional problems and plan a holistic treatment programme. This usually consists of carefully chosen activities that are purposeful to the client and address skills of self-care, productivity and leisure. The main OT focus is to promote development, improve function, enhance independence and empower the person to lead a fulfilling life. Hence, OTs are involved in helping clients to engage in appropriate familial roles, to care for their personal needs such as grooming, shopping and housekeeping, to maintain satisfactory interpersonal relationships, to participate in gainful employment and to engage in satisfying recreational and vocational pursuits.

The OTs and their assistants who work in the mental health field provide these services at Mount Carmel Hospital (within the wards, OT department and the Social Centre) and the Day Community Services of Qormi and Cospicua. They are also involved in sessions at the Psychiatric Unit, Psychiatric Out-Patients and Child Guidance Clinic at St. Luke's Hospital.

Performance components

Catering for children, adolescents, adults and elderly, OT looks at a person as a whole, so the three main functions of the individual – self care, productivity and leisure – are assessed for dysfunction and incorporated in the treatment programme. Various activities are utilized to simulate working environments to which a client would be returning. These include industrial work, information technology responsibilities, clerical duties, woodwork, sewing and household tasks. Creative activities involve various types of art such as pottery and music.

continues on page 26

The # 1 Antihypertensive Worldwide[1]

Diovan®/ Co-Diovan®

Powerfully Effective...
Proven Cardioprotective

HIGHER STRENGTHS AVAILABLE NOW

320 mg

1. IMS data - YTD Sales February 2007.

Diovan®

Presentation: Valsartan: film-coated tablets of 80 mg, 160 mg and 320mg. **Indication:** Hypertension, post-myocardial infarction, heart failure. **Dosage - Hypertension:** Recommended dose is 80 mg once daily. If the fall in blood pressure is inadequate, dosage may be increased to 160 mg. If additional blood pressure reduction is required, the dose can be increased further to a maximum of 320 mg or another antihypertensive (e.g. diuretic) may be added. **Treatment of post-myocardial infarction:** Starting dose is 20 mg twice daily. Uptitration to a maximum of 160 mg twice daily as tolerated by patient. **Heart failure:** Starting dose is 40mg twice daily. Uptitration to 80 and 160mg twice daily as tolerated by patient. **Contraindication:** Known hypersensitivity to the components of this product, pregnancy. **Precautions/Warnings/Interactions:** Risk of hypotension in sodium- and/or volume-depleted patients. Caution is advised when administering valsartan to patients with renal artery stenosis, severe renal impairment (creatinine clearance < 10 mL/min), biliary cirrhosis or obstruction. Caution should be observed when initiating therapy in patients with heart failure or post-myocardial infarction. Caution should be observed with the triple combination of an ACE-inhibitor, beta-blocker and Diovan. In patients with severe heart failure, treatment with Diovan may cause impairment of renal function. Concomitant treatment with potassium-sparing diuretics or potassium supplements may increase serum potassium levels. Caution is advised when driving or operating machines. Avoid use in women planning to become pregnant whilst breast-feeding. **Adverse reactions:** Generally similar in incidence to patients receiving placebo in placebo-controlled clinical trials, e.g. headache, dizziness, fatigue. The observed incidence of cough with valsartan in controlled clinical trials was significantly less than that observed with ACE inhibitors and similar to that seen with placebo. The most common adverse reactions are: viral infections, postural dizziness (reported in heart failure indication), orthostatic hypotension (reported in heart failure indication), neutropenia, upper respiratory tract infection, pharyngitis, sinusitis, hyperkalaemia (reported in post-myocardial infarction and heart failure indications), insomnia, libido decrease, vertigo, hypotension (reported in post-myocardial infarction indication and uncommon in heart failure indication), cough, diarrhoea, abdominal pain, back pain, fatigue, asthenia, oedema, syncope (reported in postmyocardial infarction indication), cardiac failure (reported in post-myocardial infarction indication). Very rare adverse reactions but potentially serious are: thrombocytopenia, hypersensitivity including serum sickness, vasculitis, angioneurotic oedema (uncommon in post-myocardial infarction indication), renal impairment (common in heart failure indication), renal insufficiency, acute renal failure (uncommon in post-myocardial infarction indication). Some patients with heart failure have developed increases in blood urea nitrogen, serum creatinine and potassium, usually minor and transient. **Packs and prices:** Country specific. **Note:** This product is a POM, before prescribing consult full prescribing information.

Co-Diovan®

Presentation: Coated tablets containing 80 mg valsartan (an angiotensin II receptor antagonist) and 12.5 mg hydrochlorothiazide (a thiazide diuretic) or 160 mg valsartan and 12.5mg hydrochlorthiazide or 160mg valsartan and 25mg hydrochlorthiazide or 320 mg valsartan and 12.5mg hydrochlorthiazide or 320mg valsartan and 25mg. hydrochlorthiazide. **Indication:** Hypertension. **Dosage:** One tablet of Co-Diovan 80/12.5 mg or 160/12.5 mg or 160/25mg or 320/12.5mg or 320/25mg daily. **Contraindication:** Known hypersensitivity to the components of this product or to sulphonamides, pregnancy, severe hepatic impairment, biliary cirrhosis and cholestasis, anuria, severe renal impairment (creatinine clearance < 30 mL/min), refractory hypokalemia, hyponatremia, and hypercalcemia, symptomatic hyperuricemia. **Precautions/Warnings:** Risk of hypotension in sodium- and/or volume-depleted patients. Caution is advised when administering Co-Diovan to patients with renal artery stenosis, renal and liver disease. Disturbance of serum electrolyte balance. Concomitant treatment with potassium-sparing diuretics or potassium supplements may increase potassium levels. Caution if combined with other antihypertensives or lithium (serum lithium monitoring). Caution in driving or operating machinery. Avoid use in women planning to become pregnant and while breast-feeding. **Adverse reactions:** headache, dizziness, fatigue. For the hydrochlorothiazide component, other reported adverse reactions include hypokalemia, hyperuricemia and other electrolyte imbalance, postural hypotension and rise in blood lipids. Rare: jaundice, cardiac arrhythmias, blood disorders. Very rare: vasculitis, pancreatitis, pneumonitis, pulmonary edema. Post-marketing experience revealed very rare cases of hypersensitivity (e.g. angioneurotic oedema), and impaired renal function, myalgia and thrombocytopenia. Laboratory findings: Neutropenia, elevations in creatinine and blood urea nitrogen. **Packs and prices:** Country specific. **Note:** This product is a POM, before prescribing, consult full prescribing information.

DIO Ad 11/07 MT

Full prescribing information is available from the Malta (MAH):
Novartis Pharmaceuticals UK Ltd,
Frimley Business Park, Frimley, Camberely, Surrey GU16 7SR, United Kingdom
Tel: +356 22983217

NOVARTIS

Occupational Therapy in Local Psychosocial Practice

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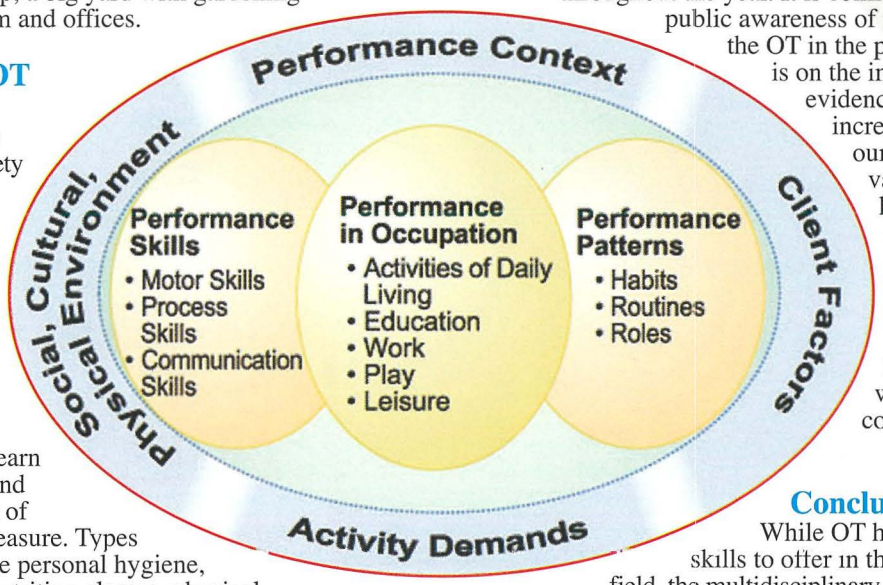
OTs are also involved in helping the client to deal with the nonhuman environment which may for example, include animals, plants and books, and this is done through the versatility of self-expressive and creative activities. Creative activities enhance self-expression and involve various types of arts such as drawing, pottery and music. These experiences assist the individual in discovering meaning and existence. The physical environment of the premises from where the OT service is delivered plays an important role. Our department has been recently refurbished to make the environment welcoming and supplied with all amenities. The services now include a multipurpose activity hall, computers' room, kitchen, laundry room, pottery room, carpentry workshop, a big yard with gardening areas, a gymnasium and offices.

Versatility of OT activities

Our service users participate in a variety of therapeutic individual and group sessions. These help the individual to increase self-esteem and motivation, maintain present skills, build on developing ones, learn coping strategies and experience a sense of satisfaction and pleasure. Types of activities include personal hygiene, domestic chores, nutrition classes, physical fitness, stress management, compliance to treatment education, social skills training, self-expression, time management, health promotion and budgeting skills. Activities take place both in a sheltered environment within the hospital as well as in the community. OT staff assist clients to reintegrate into the community by practicing the use of public transport, bank facilities, shopping skills and neighbourhood services. These are complemented by sessions with the carers and regular home, school or work visits, as necessary.



Vocational Support

Undoubtedly, financial independence is the fulcrum of self-sufficiency. Hence OT is also greatly involved in the assessment, training and job coaching of our clients to form part of a rehabilitation work scheme. Computer literacy is an asset for some individuals in the employment field nowadays. The OT department has thus made arrangements for such training through other agencies.

Leisure activities

Apart from the physical wellbeing, a healthy life is complimented with a range of activities and responsibilities. Therefore, one should strive to find a reasonable balance between work and leisure. Psychosocial OT services also organize various group activities in the community. Seasonal events like Carnival ball, Easter events, beach activities in summer and Christmas functions are highlights in the OT recreational calendar. Other activities include visits to historical sites, village feasts, sports events, libraries, cultural evenings, artistic exhibitions, and organizing talent shows and day trips to Gozo or Comino.

With the aim of involving the outside community into the hospital environment, the OT department has taken the initiative to make requests for sponsors to help, by example, involving clients in an annual Christmas Fair, in the running of snack bars and in the promotion of craftworks prepared throughout the year. It is comforting to note that public awareness of the significance of the OT in the psychosocial field is on the increase. This is evidenced by the increasing requests for our interventions in a vast range of mental health difficulties which hinder an individual's personal fulfilment in an independent and meaningful life, possibly within the community.

Conclusion

While OT has its own core skills to offer in the mental health field, the multidisciplinary nature of this work cannot be stressed enough. Working in close liaison with other professions and agencies, both inside the hospital as well as in the community, ensures an integrated treatment approach to the benefit of the client.

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Update on Avian and Seasonal Influenza

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Human Infections with Avian Influenza A (H5N1) Virus

During the period 20 May to 15 Sep 2007, a total of 21 human cases of avian influenza A (H5N1) infection were reported to WHO from four countries (China, Egypt, Indonesia, and Vietnam). The case fatality rate was 67 percent.

Latest results for GlaxoSmithKline's H5N1 Vaccine

The final results of GlaxoSmithKline's H5N1 influenza vaccine trials which were reported in *The Lancet* this summer, showed that the adjuvanted vaccine showed significant antigen dose-sparing, high levels of immunogenicity and induction of cross-clade immunity against A/H5N1 viruses. Adjuvants could substantially boost the supply of pre-pandemic H5N1 vaccines by reducing the amount of antigen needed in each dose.

The main side effects were fatigue, headache and pain at the injection site and were more common in the adjuvant group.

New Statistical Tool Confirms Possible Human to Human Spread of Avian Influenza

International investigators from the WHO, with the use of a new statistical tool called TransStat, managed to confirm that avian influenza spread from human to human in a particular family in Indonesia last year.

This real time technology would enable countries to quickly discover whether human to human transmission of the virus is occurring during new avian influenza outbreaks, enabling public health authorities to move fast to contain its spread

.

Placental transmission of Avian Virus

Studies done in the Infectious Disease Centre in Beijing, China have shown that the H5N1 bird influenza virus can pass through a pregnant woman's placenta to infect the fetus. Evidence showed that the virus not only affects the lungs, but also affects the gastrointestinal tract, brain, liver and blood cells.

Their findings support the theory of a 'cytokine storm' where the immune system overreacts to the virus in some cases, and sends out an overwhelming swarm of signalling chemicals that end up killing the patient.

Influenza activity worldwide this summer

During the period 20 May to 15 Sep 2007, influenza A (H1 and H3), and influenza B viruses cocirculated worldwide. Influenza A (H3) viruses predominated in Asia, however, influenza A (H1) and B viruses were also reported in this continent.

Seasonal Influenza

Prevention of influenza

Vaccination is the best method for preventing influenza and its potentially severe complications. The influenza vaccine can be administered to any person aged >6 months who wants to reduce the likelihood of becoming ill with influenza or transmitting the virus to others. Annual influenza vaccination is recommended for persons at increased risk for influenza-related complications and severe disease (eg. pregnant women after the first trimester, infants/children aged 6-59 months, persons aged 5-49 years with certain chronic medical conditions and persons aged >50 years) and their household contacts.

In addition, all children aged 6 months to <9 years who have never received influenza vaccination should receive 2 doses of influenza vaccine 4 weeks apart.

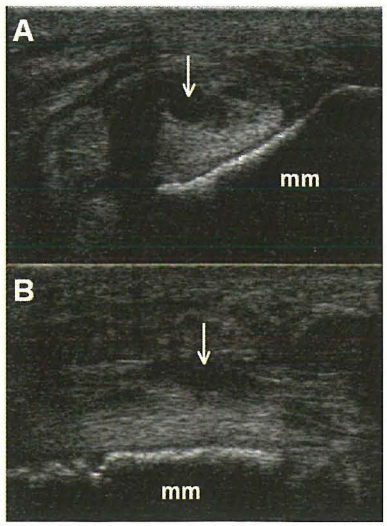

Figure 9. *Transverse (A) and longitudinal (B) scans through the tibialis posterior tendon posterior to the medial malleolus (mm) showing a defect (arrow) in the tendon that represents a partial thickness tear.*

Ultrasound of Musculoskeletal Trauma – Part II

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The tibialis anterior and posterior tendons are also prone to tears resulting from forceful flexion and extension injuries of the foot. The extent of these tears is readily assessed by ultrasound and is required for selecting treatment. Partial tears in the tibialis tendons appear as defects within the tendons (Figure 9) and are frequently managed conservatively. Full thickness tears require surgical repair.

The above is but a very basic overview of the value of ultrasound for assessment of musculo-skeletal injuries. Several areas in which ultrasound can replace more complex and difficult imaging such as CT or MRI have not received mention. The value of ultrasound also lies in its wide availability, low cost and ease of performance. It also provides direct dynamic assessment of musculoskeletal structures during motion and visual guidance for interventional procedures.

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Pharmacy of Your Choice Scheme

Preparing to Implement Change and Innovation through a Pilot Study in a Cohort of Community Pharmacies

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The visit shall consist of an important meeting with the President and Director of Pharmacy Practice of the National Pharmaceutical Association and the Pharmaceutical Services Negotiating Committee, with whom the Chamber has long-standing professional relations, followed by structured visits to independent pharmacies which are NHS contractors. This is a unique opportunity to gain an insight, observe and learn from and exchange views with our counterparts delivering an NHS service in the UK.

Preparations for study visits to other EU countries are in the 'pipeline'.

These initiatives are in the service of community pharmacists, the pharmacy profession and not least, the patients.

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