

# TheSynapse

The Medical Professionals' Network

M E N ' S H E A L T H

## Prostate Cancer

### Part II – aetiology, presentation, diagnosis

by **Dr Pierre Vassallo**  
MD, PHD FACA ARTZ FUR RADIOLOGIE

*The first part of this article appeared in the August 2005 issue and dealt with the aetiology, clinical presentation and investigations of this condition. In this second part, Dr Vassallo discusses staging and management of prostate cancer.*

If prostatic cancer has been diagnosed, further imaging procedures are required to stage the extent of disease spread both locally and to distant structures. Tumors are staged based on size, cell differentiation and the extent of metastasis. Two systems commonly are used for staging prostate cancer: the Jewett-Whitmore system and the TNM (tumor, node, metastases) system. The TNM classification is more commonly used, with T1-4 staging the size of the tumor and extent

capsular extension, N0-3 staging the presence and size of enlarged lymph nodes, and M0-1 the absence or presence of distant metastases.

The preferred mode of distant spread of prostatic cancer is via lymphatics to the pelvic and retroperitoneal lymph nodes and via the haematogenous route to the bones. Computed Tomography (CT scan) is used to detect pelvic and retroperitoneal lymph node metastases. Bone scans are used to detect metastasis to bone.

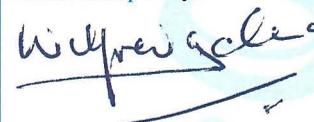
Tumor		Nodes		Metastasis	
TX	Tumor cannot be assessed	NX	Nodes cannot be assessed	MX	Metastasis cannot be assessed
T0	No evidence of primary tumor	N0	No regional node metastasis	M0	No distant metastasis
T1	Clinically not palpable or visible by imaging	N1	Single node M1 Distant metastasis metastasis <2cm		
T1a	Incidental finding in <5% of tissue	N2	Single or multiple M1a Distant lymph nodes 2-5cm node(s) involved		
T1b	Incidental finding in >5% of tissue	N3	Metastasis >5 cm in any node	M1b	Bone(s) involved
T1c	Identified by needle biopsy	M1c	Other site(s) involved		
T2	Tumor confined to prostate				
T2a	Involving half a lobe				
T2b	Involving a lobe				
T2c	Involving both lobes				
T3	Extends through capsule				
T3a	Extends through one lobe				
T3b	Extends through both lobes				
T3c	Involves seminal vesicles				
T4	Involves other structures				
T4a	Invades bladder neck, external sphincter, or rectum				
T4b	Invades pelvic wall				

continues on page 2

### Editor's Word

In this issue we are pleased to introduce Ian Ellul as our Scientific Editor for the magazine (page 8). In each issue we plan to focus on particular topics which are dealt with from a multidisciplinary approach by distinguished members of the medical professions. The first two issues will focus on Cardiology. Heart Health starts in childhood and **Childhood Obesity (page 3)** is reaching epidemic proportions and needs to be addressed now rather than later. The beneficial effects of **Regular Exercise (page 14)** can not be underestimated. Mr Alex Manche gives us an interesting overview of **The changing practice of Cardiac Surgery** over the last couple of decades (**page 6**). The management of cardiac failure has also seen important changes in the last two decades and so the article on **Evidence based management of Chronic Heart Failure (page 4)** is relevant and timely. **Cardiac Rehabilitation (Page 11)** and **Occupational Therapy (page 10)** are extremely important in the maintenance of quality of life in patients who suffer from cardiac disease. Last but not least any critical illness disrupts not only the patient's health but also has great financial implications. The article on **Critical illness: a cash cushion to soften health blows (page 15)** certainly interests everyone. No publication is nowadays complete without an article on **Pandemic Influenza (page 12)** – we will be having regular updates in every issue.

Of course we can not leave out the regular radiology related article which focuses on the **Management of Prostate Cancer** and the network news where we take this opportunity to introduce **TheSYNAPSE Gold Membership** for you.



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Editor: Dr Wilfred Galea  
Scientific Editor: Ian C. Ellul

# Prostate Cancer

## Part II – aetiology, presentation, diagnosis

### Treatment

Treatment for prostate cancer depends on the stage of the disease with the patient's age and overall health.

Watchful waiting is a reasonable course of action for patients who are elderly, in poor health, or with early stage cancer. Untreated prostate cancer may take years to become problematic. During this time, the patient's condition is monitored for any marked or sudden progression of the disease, which may signal the need for more aggressive treatment.

#### Medical Treatment

Hormone therapy for prostate cancer involves the use of LHRH (lutensising hormone releasing hormone) analogs and antiandrogens to block production of testosterone, which stimulates growth of prostate cancer cells. Drugs used for hormone therapy include leuprolid acetate (Viadur®), goserelin acetate implant (Zoladex®), bicalutamide (Casodex®), and flutamide (Eulexin®).

ViadurR is a matchstick-sized titanium pump inserted under the skin on the upper arm that delivers a constant rate of leuprolid acetate for 1 year. This prostate cancer treatment suppresses testosterone production causing a reduction in tumor size or arresting growth. Zoladex is also used in the form of a subcutaneous implant and works in a similar fashion. Both these drugs may be given by subcutaneous injection. Side effects associated with hormone therapy include haematuria, depression, gynecomastia, headaches, hot flushes and lethargy.

Patients who begin hormone therapy may also experience an increase in prostate cancer symptoms

for approximately 2 weeks, due to a temporary increase in testosterone levels. Patients with advanced disease (e.g., large bone, bladder, or spinal cord tumors) may be unable to tolerate this increase in testosterone. Studies have shown that abarelix injection (Plenaxis®), which does not cause a surge in testosterone, can be used in some of these patients to relieve symptoms (e.g., bone pain, urinary retention). Plenaxis may cause life-threatening reactions in some people, such hypotension, bronchospasm and angioneurotic oedema. Patients must be monitored for at least 30 minutes after each administration of the drug in case an adverse reaction does occur.

In the case of bone metastases, Zoledronic acid Zometa™, a bisphosphonate may be prescribed to treat hypercalcaemia that may occur with extensive skeletal involvement. Patients with hypercalcaemia experience dehydration, fatigue, nausea, vomiting, confusion, and if untreated, may progress to coma. Zoledronic acid also increases bone density, decreases bone loss, and reduces the risk for fractures. Patients must have completed at least one course of hormone therapy before starting this treatment. Doses are given intravenously for 15 minutes, every 3 to 4 weeks. A blood sample is taken before each treatment to monitor kidney function. Zoledronic acid is not recommended for patients with severe kidney disease and should be used with caution in those with aspirin-sensitive asthma and those taking loop diuretics (e.g., hydrochlorothiazide).

#### Radiation Therapy

Two types of radiation therapy are used to treat prostate cancer: brachytherapy and external radiation therapy (XRT).

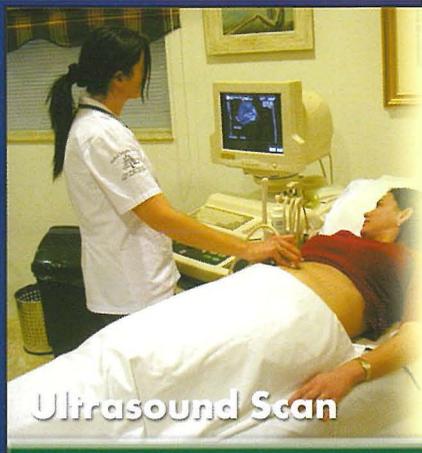
Brachytherapy involves implanting tiny, radioactive capsules ("seeds") into the cancerous prostate gland. Men with small tumors confined to the prostate (stage T1 or T2) are candidates for brachytherapy. TRUS is used to create a three-dimensional grid map of the prostate, and a computer calculates prostatic volume, the number of seeds needed, and determines their placement. The seeds contain a radioactive isotope (usually palladium 103 or iodine 125) that emits radiation for about 3 months and then becomes inert. Recent studies has shown that most brachytherapy patients remain free of prostate cancer 5 years after treatment. Complications are rare and more common in patients over 70 years of age; these include incontinence and impotence.

XRT is recommended when the tumor has spread through the prostate capsule to surrounding tissues. XRT usually is given on an outpatient basis for 7 to 8 weeks. Spiral CT scans are used to obtain a 3 dimensional image of the prostate. This image is then used to accurately project high-energy x-rays accurately onto prostatic tissue. One study of 999 patients found 79% of stage T1, 66% of stage T2, 55% of stage T3, and 22% of stage T4 prostate cancer patients survived 10 years after XRT. Impotence, particularly in older men, dysuria, urinary urgency, and diarrhea are commonly experienced with XRT.

Part III in this series deals with surgical management. ☐

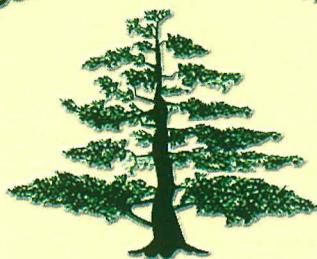
*to be continued on next issue*

Dr Pierre Vassallo can be reached at the Medical Imaging Centre on 21 491 200 or by email on [pvassallo@mic.com.mt](mailto:pvassallo@mic.com.mt)



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# Childhood obesity in Malta – a crisis in the making

by Dr Victor Grech  
Consultant Paediatrician (Cardiology)

*Maltese childhood obesity is the worst in the world. This article indicates the complications of this morbid condition and outlines suggestions for possible interventions, not only by individuals and families, but also by the Health Authorities.*

Childhood obesity is becoming a major problem worldwide in both developed and developing countries and occurs when energy intake exceeds energy expenditure over a long period of time. At least 155 million school-age children worldwide are overweight or obese.

Closer to home, it is calculated that over half a million children in the EU are suffering from classic middle-aged health problems because of overweight or outright obesity. These are at a higher risk of developing potentially crippling or even fatal complications such as hypertension, diabetes, high cholesterol, stroke and ischaemic heart disease. For example, it is estimated that in the EU, there are about 10,000 children suffering from what was previously called adult-onset diabetes.

Risk factors for excess weight gain include excessive food intake, especially with inappropriate types of foods and lack of exercise.

## A list of complications of excessive body weight includes:

Diabetes  
Ischaemic heart disease  
Hypertension  
High cholesterol  
Stroke  
  
Arthritis  
Slipped epiphyses  
Blount's disease (tibia vara)  
Polycystic ovarian syndrome  
Irregular menses  
Some forms of cancer  
Victims of bullying  
Low self-esteem  
Depression  
Gallstones  
Asthma  
Sleep apnea  
Pseudotumor cerebri  
Osteoporosis

- In children, there is also advancement of maturation with early growth, early puberty and early cessation of growth.
- It is important to remember that the above list can lead to additional complications. For example, just to mention one complication, both diabetes

and hypertension damage blood vessels, and if untreated, may result in blindness and renal failure.

- One must also bear in mind that other potential risk factors for the above complications may also be present in obese individuals, such as smoking.

An estimated two to eight per cent of healthcare expenditure in developed countries is attributable to obesity. For example, the cost of obesity in the US in 2000 was more than \$117 billion. Indeed, obesity-related conditions are second only to smoking as a cause of preventable death. For example, a 40 year follow-up of overweight children revealed double the rate of cardiovascular disease and hypertension and triple the rate of diabetes when compared with normal-weight children. 80% of adult-onset diabetes, 70% of cardiovascular disease, 42% of breast and colon cancer and 30% of gall bladder surgery is related to obesity.

Where does Malta stand in this scenario? *Malta excels!* A 2002 World Health Organisation health behaviour survey among school children placed Maltese 13-year old boys and girls at the first place, higher even than the USA, with 13.5 per cent of 13-year old boys and 17 per cent of girls of the same age classified as obese.

Significant and long-term weight loss is achievable by a combination of diet modification, behaviour modification, physical activity and social support. Weight loss should be slow (about half a kilogram a week) and steady.

## Suggestions and recommendations:

- Health Authorities should mount a sustained and intensive public education campaign to improve parents' and children's understanding of the benefits of healthy living.
- There should be mandatory nutrient and compositional standards for any school meals and maximum/minimum levels should be set for fat, sugar, salt, vitamins and minerals.
- The sale of unhealthy food and drink products from school vending machines and tuck shops should be banned.



- All schools should make free water available from clean and hygienic sources.
- Government should consider subsidising the cost of fruit and vegetables in order to encourage healthy eating.
- All manufacturers should be legally obliged to reduce salt, sugar and fat in pre-prepared meals to an agreed level within a defined time frame.
- There should be a ban on the advertising of unhealthy foodstuffs, including inappropriate sponsorship programmes targeted at school children.
- Celebrities and children's television characters should only endorse healthy products that meet nutritional criteria laid down by the foods standards agencies.
- Resources should be allocated to create specialist obesity services and to allow children to gain access to such specialist obesity services.
- Government should increase funding and improve access to sport and recreation facilities within school and communities.

Authorities must remember that any costs incurred at this stage in the primary prevention of overweight and obesity will be more than offset by savings from treatment of the above mentioned complications. In this context, effective primary prevention will undoubtedly be extremely cost-effective.

## Further reading:

Currie C. et al (eds.) 2004. Young People's Health in Context: international report from the HBSC 2001/02 survey. WHO Policy Series: Health policy for children and adolescents Issue 4, WHO Regional Office for Europe, Copenhagen.

The international report on the 2001/02 HBSC survey (launched 4th June 2004 in Edinburgh, Scotland). The report, entitled 'Young People's Health in Context' was published as the fourth volume in the WHO Health Policy for Children and Adolescents (HEPCA) Series. [\[3\]](#)

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# Evidence-based management of chronic heart failure

by Ms Marise Gauci  
BPharm (Hons), MSc (QUB)

*Throughout the past 10 to 15 years, the therapeutic approach to heart failure has undergone considerable change. Current treatment not only concerns symptomatic improvement, but increasingly focuses on the prevention of disease progression and on reducing mortality. The understanding and acceptance of the need to prescribe therapies proven to be effective in large controlled trials is vital for the provision of optimal treatment for heart failure patients.*

The use of diuretics in the treatment of heart failure is well established and essential for symptomatic treatment when fluid overload is present. However, there is no evidence that loop and thiazide diuretics improve the prognosis of patients with heart failure.

ACE inhibitors are the mainstay of heart failure treatment. There is good clinical evidence that they improve symptoms and exercise tolerance as well as reduce mortality and hospital admissions in all grades of symptomatic heart failure caused by left ventricular systolic dysfunction (Flather et al, 2000). They also delay progression of asymptomatic left ventricular systolic dysfunction to symptomatic disease (The SOLVD Investigators, 1992). ACE inhibitors are often prescribed at doses lower than those shown to be effective in large controlled clinical trials. Initiation of treatment should be at low doses, but this should be followed by upward titration to the target dose (table 1), if tolerated, whether or not there is symptomatic improvement. Monitoring of renal function and electrolytes is recommended after each dose increment. Some rise in urea, creatinine and potassium is to be expected – no action is warranted if the increase is small and asymptomatic, but dosage adjustment is indicated if these parameters rise excessively. It is very rarely necessary, however, to stop the drug altogether. Angiotensin II receptor blockers (candesartan, eprosartan, losartan, telmisartan, valsartan) can be used as an alternative to ACE inhibitors as they have been shown to have similar benefits (Jong et al, 2002; Coletta et al, 2003). These agents can also be considered in combination with ACE inhibitors in patients who remain symptomatic.

Extensive evidence demonstrates the value of beta-blockers (bisoprolol, carvedilol, metoprolol) in addition to ACE inhibitor therapy and diuretics in patients with heart failure due to left ventricular systolic dysfunction (CIBIS-II Investigators and Committees, 1999; Packer et al, 1996; MERIT-HF Study Group, 1999). Particular benefit is gained in patients who have had a myocardial infarction (The Capricorn Investigators, 2001). Long term improvement can be preceded by initial deterioration and therefore beta-blockers should be initiated in patients who are clinically stable at a low dose and increased slowly and progressively over weeks or months. It is evident that even a low dose of a beta-blocker is superior to treatment

without beta-blocker administration (Wikstrand et al, 2002; Simon et al, 2003). The introduction of a beta-blocker should therefore be attempted even if the titration period is prolonged.

A major breakthrough has been the recommendation for the inclusion of a low dose of spironolactone (25mg) for patients with advanced heart failure with systolic dysfunction in view of evidence of reduced morbidity and mortality (Pitt et al, 1999). Whether an aldosterone antagonist is of proven benefit in patients with less severe disease remains to be fully established. A recent study using another aldosterone antagonist, eplerenone, has led to this agent being recommended for use as adjunct treatment in all stages of heart failure following myocardial infarction (within 3-14 days of event) (Pitt et al, 2003). The main concern with these agents is the potential for hyperkalaemia thus necessitating monitoring of serum potassium.

Digoxin is one of the oldest known treatments for heart failure. Although it is clearly indicated as a rate controller in patients with concomitant atrial fibrillation,

its role in patients with heart failure in sinus rhythm is limited. In this latter case, current guidelines recommend the use of digoxin in patients who remain symptomatic despite optimal doses of ACE inhibitors, beta blockers, diuretics and spironolactone. Digoxin has no effect on reducing mortality but may decrease hospitalizations in these patients.

There is no specific role for direct-acting vasodilator agents. In case of intolerance to ACE inhibitors and angiotensin II receptor blockers, the combination of hydralazine and nitrates can be considered (Taylor et al, 2004).

A summary of the choice of pharmacological therapy in the various stages of heart failure is shown in table 2 (The Task Force for the Diagnosis and Treatment of Chronic Heart Failure of the European Society of Cardiology, 2005). Despite longstanding evidence, European surveys on drug therapy of heart failure patients in primary care and in hospital have shown that ACE inhibitors, beta-blockers, and in particular their combination, are not used optimally (Cieland et al, 2002; Cieland et al, 2003). Evidence-based guidelines are now available and should be utilized so as to improve outcomes for heart failure patients (The Task Force for the Diagnosis and Treatment of Chronic Heart Failure of the European Society of Cardiology, 2005; Hunt et al, 2001; National Collaborating Centre for Chronic Conditions, 2003).  marisa.gauci@um.edu.mt

**Table 1: Recommended ACE inhibitor starting and target doses**

Drug	Starting dose	Target dose
enalapril	2.5mg daily	10-20mg twice daily*
lisinopril	2.5mg daily	30-35mg daily*
perindopril	2mg daily	4mg daily**

\* doses used in large outcome trials

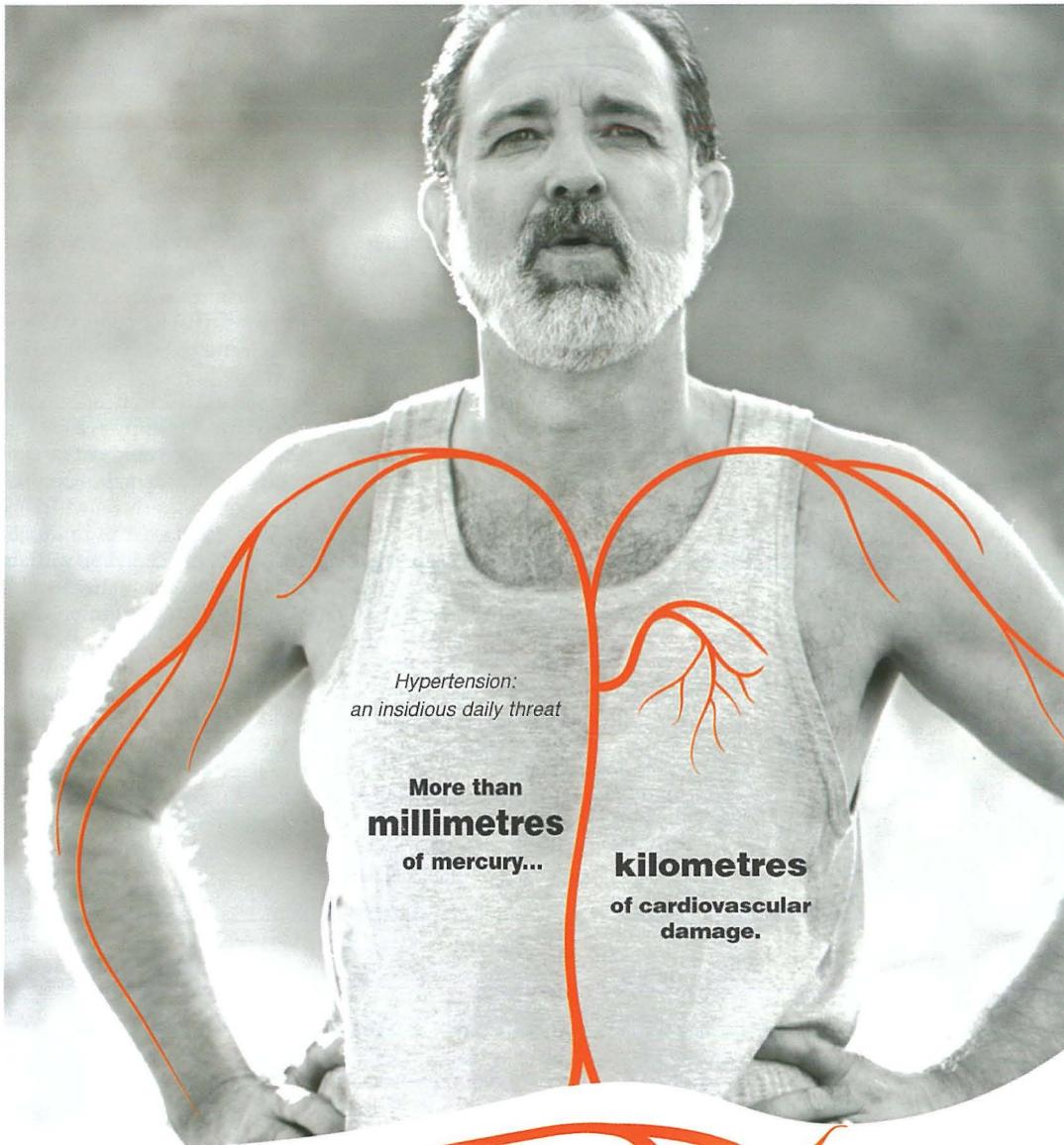
\*\* manufacturer's recommendation

**Table 2: Heart failure – choice of pharmacological therapy in left ventricular systolic dysfunction**

	ACE inhibitor	Angiotensin receptor blocker	Diuretic	Beta-blocker	Aldosterone antagonist	Cardiac glycoside
Asymptomatic	Indicated	If ACE intolerant	Not indicated	Post MI	Recent MI	With atrial fibrillation
left ventricular dysfunction						
Symptomatic HF (NYHA II)	Indicated	Indicated with or without ACE inhibitor	Indicated if fluid retention	Indicated	Recent MI	(a) when atrial fibrillation (b) when improved from more severe HF in sinus rhythm
Worsening HF (NYHA III-IV)	Indicated	Indicated with or without ACE inhibitor	Indicated, combination of diuretics	Indicated (under specialist care)	Indicated	Indicated
End-stage HF (NYHA IV)	Indicated	Indicated with or without ACE inhibitor	Indicated, combination of diuretics	Indicated (under specialist care)	Indicated	Indicated

NYHA-New York Heart Association, HF-heart failure, MI-myocardial infarction

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## TheSYNAPSE welcomes Ian Ellul as Scientific Editor

Mr Ian C. Ellul B. Pharm. (Hons.) has been appointed Scientific Editor of TheSYNAPSE Magazine. Mr Ellul graduated as a pharmacist in 2003 and has worked both in the public and private sector. Mr Ellul is responsible for the coordination of scientific articles of TheSYNAPSE Magazine, with no involvement at all in sponsorships.

Commenting on his appointment, Mr Ellul stated that "TheSYNAPSE Magazine aims to bring at the tips of healthcare professionals, different aspects of recent advances in healthcare, written by distinguished colleagues. The magazine has heralded



several achievements of healthcare professionals through the past years. I feel proud to be part of the editorial board, especially since TheSYNAPSE Magazine is celebrating its fourth anniversary and indeed TheSYNAPSE services are celebrating the ninth year of operation.

I am sure that my past and present memberships in other committees and editorial boards will help me contribute to the sterling work being done by the magazine. Our aim is to increase teamwork approach in a healthcare system that treats patients in a holistic way. This has been proven to be cost-effective not only to healthcare professionals but also to the most important constituent of the Maltese healthcare system ... the patient."

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## TheSYNAPSE – nine years on

The 18 th October 1996 saw the launch of TheSYNAPSE on the Internet. Internet access, using basic 14.4 K or 28.8 K modems had just been available. Throughout the nine years of operations, TheSYNAPSE has always been in the forefront of development by providing Maltese health care professionals, in particular doctors, pharmacists and dentists, with an extensive

portfolio of tools, news and resources.

Today, TheSYNAPSE Internet services is a ubiquitous trusted resource for news from the medical world, corporate news, news on latest important developments in fields of interest for members. TheSYNAPSE eNEWS is a weekly source of information for the 1500 maltese registered members. One cannot but mention everyday useful tools

like TheSYNAPSE Direct which is a secure service for the delivery of investigation results from diagnostic facilities to the doctors' desktop. TheSYNAPSE Direct is also a useful tool for the statutory notification of of vaccinations and infectious diseases.

And of course, this magazine is now synonymous with quality articles from distinguished members of the

medical community.

Nine years down the line, TheSYNAPSE is proud of a pipeline of tools and services that are in advanced stage of development and that are scheduled for for launch in the coming months. TheSYNAPSE Services go a long way to the ultimate goal of improving both the lifestyle of members as well as the quality of care delivered by maltese medical professionals.

# Winning with TheSYNAPSE – another eQUIZ

Pro-Health Ltd, representatives for La Roche-Posay Laboratoires Pharmaceutique presented prizes to the 3 winners of the ANTHELIOS competition organized in collaboration with TheSYNAPSE. The winners were Dr Constantine Caruana, Dr Victor Calvagna



and Dr Patrick Mahoney. The prizes were packs containing 10 assorted La Roche-Posay products. Participants had to answer 5 questions about the ANTHELIOS range of sunscreens.

Look out for competitions and eQuizzes.

## The changing practice of cardiac surgery

continued from page 8

The technique of performing grafts without the use of cardiopulmonary bypass, OPCAB (off pump coronary artery bypass) remains controversial. We carried out this procedure over a period of 3 years in selected cases, starting in 2000, but have since discontinued it because we could not demonstrate any clinical advantage over the standard technique in our practice. A recent study raised concern over medium term graft patency (Khan et al, 2004).

Another area of change is in the field of

valvular heart disease. Aortic regurgitation is now considered an indication for surgery, especially in the younger patient, before ventricular dilatation sets in. Similarly mitral regurgitation is being treated earlier with the aim of avoiding atrial fibrillation, pulmonary hypertension and heart failure. In this context we are offering repair when the clinical situation and the mitral valve pathology are suitable. Modern techniques of over-reduction of the posterior annulus (Calafiore et al, 2004) as well as specially shaped rings that alter the

dynamics of the posterior left ventricular free wall now play a role in our repairs.

In the sixties thoracic surgeons ventured into the territory of the heart and great vessels. The following decade saw the emergence of coronary revascularisation. Our new challenges are dictated by an ageing population in whom correction of a cardiac problem may make the difference between simply living and enjoying life to the full. As surgeons it is our duty to respond to these demands of our modern society. [3]

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**Correspondence Address:** TheSYNAPSE magazine is sent to all doctors, pharmacists and dentists in the maltese islands, if you do not receive the magazine then we probably have an incorrect address and you are missing out.

**Please inform us immediately by email if you do not receive the magazine at home.**

# The role of the Occupational Therapist in Cardiovascular Conditions

by **Joanna Chetcuti** MSc (Lond.), SROT  
Principal Occupational Therapist, Occupational Therapy Department, St. Luke's Hospital,  
Assistant Lecturer, Institute of Health Care, University of Malta.

*Occupational Therapy (OT) plays a vital role in the care of cardiac patients. OT intervention can improve function, reduce anxiety and improve the overall well-being of the patient. The root skills of our profession together with our patient-centred approach, enable us to work well with such patients. The emphasis is on empowering individuals to make informed choices for their health rather than force changes in lifestyle.*

OT is a health profession which helps individuals adjust to their limitations and develop or improve the required skills to lead a fulfilling life. Service delivery begins by assessing the patient's occupational needs and implementing an intervention plan using goal directed activities to treat people in all their performance areas (AOTA, 2002). Through the use of functional activities, the occupational therapist maximizes the patient's ability to perform tasks which are important to them such as self care (bathing, eating, dressing, etc),

education, work, leisure and participation in social activities.

The involvement of the Occupational Therapist has changed over the past thirty years with a shift in focus from progressive resumption of activity through craft and calisthenics used in the USA (Mesenbourg et al, 1970) to similar underlying principles which however place emphasis on education and counseling, now firmly established in Australia (Tooth et al, 1996). The level of input may vary according to the diagnosis and different stages of the patient's condition. A variety of patients can benefit from OT but the most common diagnosis is that concerning angina, post-myocardial infarction and pre or post cardiac surgery.

A patient-centred approach is commonly recognized as the approach of choice. This allows the OT and the patient to form a partnership in order to attain the patient's own chosen goals (Sumsion, 1999). A study carried out in Malta on lifestyle changes following a myocardial

infarction (Chetcuti, 1998) found that most of the participants made changes but often this was accompanied by fear. In order to enhance compliance, patients should play an active role in their own health and change behaviours out of choice rather than fear (Parmee, 1995).

OT may be carried out on an inpatient basis prior to an operative procedure such as coronary bypass surgery or following an acute episode such as post-myocardial infarction and may include the following:

- Assessment of the patient's ability to perform normal daily activities;
- Task simplification and guidance in resuming daily activities;
- Prescription of adaptive equipment (such as a shower chair, bathroom rail);
- In-patient educational information (including advice on risk factor modification);
- Basic graded exercises and activities;
- Psychological support;
- Stress management.

*continues on page 13*

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# Cardiac Rehabilitation

*Cardiac rehabilitation (CR) helps patients is about enabling people to take responsibility for their own health. It attempts to offer the patienterson a healthier and improved quality of life (QoL) by means of appropriate education, counselling, exercise and behavioural change. Exercise – based CR is currently underused, even though exercise is one of the few non surgical interventions that can make heart diseasecardiac patients feel better both physically and mentally (Thompson, 2001).*

by **Stephanie Marie Zerafa**  
BSc (Hons) Physiotherapy, SRP  
by **Charmaine Mallia**  
BSc (Hons) Physiotherapy, SRP

The relative importance of physical activity for patients with so called “disorders of the chest” was noted some two hundred years ago. Heberden (In 1772), Heberden published a report in which he described a six- month exercise programme for one of his male patients, who had a diagnosed chest disorder. The programme consisted of 30 minutes of daily sewing activity. In 1799, Parry independently noted the beneficial effects of physical activity in his patients who suffered from chest pain. However, in 1912, Herrich expressed concern regarding physical exertion and the increased risks that it brought along with it. This precipitated the adoption of a conservative treatment approach in which patients were kept in bed for six to eight weeks post myocardial infarction (MI) (Certo, 1985).

Physical inactivity for coronary patients was reinforced in the 1930’s by two physicians, Mallory and White (1939). They found that necrotic myocardial region

transformed into scar tissue in about six weeks. Thus they advised a minimum of three weeks in bed for patients who suffered even the slightest MI. Continued limited physical exercise was prescribed after patient hospital discharge. Stair climbing was often prohibited, in some cases for up to a year. During this so called convalescent period, the patient’s tendency to become an invalid was enhanced. Frequently, patients did not return to work and were soon considered to be non-productive members of society (Certo, 1985).

An important landmark in the development of cardiac rehabilitation (CR) happened in the 1950’s. Dwight Eisenhower, then President of the United States, suffered a heart attack whilst in office. His physician was Paul Dudley White, a man strongly committed to the positive effects of exercise. He prescribed graded levels of exercise, including swimming, walking and golf for his patient. The result turned out to be so positive for President

Eisenhower that he created the President’s Youth Fitness Council, which was later to be renamed the President’s Fitness Council by President Kennedy (Certo, 1985).

CR is now a world wide routine programme followed by varied groups of individuals with a medical history of cardiac disease, or groups who have undergone heart surgery, including Coronary Artery Bypass Graft (CABG) and Percutaneous Transluminal Coronary Angioplasty (PTCA).

The physiotherapist has a vital role throughout CR. In the early management of patients following coronary artery surgery, the prevention of post-operative pulmonary complications is the primary aim of physiotherapy. Breathing exercises are taught in order to improve ventilation distribution and, together with effective coughing, enhances the clearance of excess retained bronchial secretions, thus aiding in the prevention of atelectasis (lung collapse) and infection (Stiller et al, and Munday, 1992).

*continues on page 14*



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# Pandemic

## Introduction

Influenza was first documented by Hippocrates in 421BC and the first documented pandemic was in 1580.

Since 1900 there has been 3 major pandemics (1918 the worst, 1957 and 1968). There has also been a number of near misses with 16 events with pandemic potential since 1977 and the last 8 have occurred since 2003. Historical data shows that since 1889 pandemics have occurred at intervals ranging between 10-40 years. It has been 37 years now since the last pandemic. As Dr K Stohr (WHO Global Influenza Programme team Coordinator) told us a few weeks ago, another pandemic will certainly occur; it is only a matter of time.

Influenza remains the most major health threat worldwide.

## Why is World Health Organization so concerned?

- There has been an acceleration of events with pandemic potential since 2003.
- The H5N1 epidemic of 2004 was unprecedented in the history of influenza because of its spread to different countries and significant human exposure.
- The emergence of H5N1 HPAI (high pathogenic avian influenza).
- The epidemiological situation-this virus has succeeded in adapting in such a way to invade different hosts including a large number of birds, poultry and different mammals like felines, tigers, domestic cats, pigs and also humans.

## What should Malta be doing?

### 1. Reduce/Eliminate virus in birds

The Veterinary Authorities are continuously monitoring the local poultry for signs of avian flu and a contingency plan is in place if the avian virus should be found.

### 2. Increase seasonal influenza vaccination coverage

WHO has asked all countries to increase their vaccination coverage especially in the elderly and high risk groups. This autumn Malta should be first in the whole world with the highest total population influenza coverage. It is the role of every Maltese doctor and pharmacist to educate the general population on the benefits of taking the seasonal vaccine. Our common goal should be to aim for 65-70% total population coverage rate every year.

### 3. Purchase essential pharmaceuticals for pandemic preparedness

The Minister of Health and DG have purchased antivirals to treat 25 % of the general population and put in an order for the pandemic vaccine to vaccinate 90% of the population once it is available.

### 4. Prepare for damage control

A committee has been set up, who are presently finalising the Pandemic Plan.

## How will the Pandemic effect our little Island?

All over the world the pandemic will affect health care services and equally affect other essential community services like Police, Armed Forces, Water Services, Electricity services, Communications etc. There will be social and political disruption and considerable economic losses. One of the most notable impacts of the next pandemic will be work days lost. Besides the actual time away from work due to illness, there will also be the time lost due to workers staying home looking after sick family members.

Dr Martin Meltzer (Health Economist at CDC, USA) using Fluaid software, worked out the likely estimates for Malta with a 25% attack rate, using the scenario of the last pandemic 1968 (which was the mildest) and the scenario of the Spanish Flu Pandemic in 1918 which was the worst. Estimates for Malta are:

Health outcomes	1960's scenario	1918 scenarios
Deaths	272( 149;451)	1,772 ( 1,003;2521)
Hospitalization	1,202 ( 420;1,487)	8,832( 2,395;11,217)
GP consultations	51,933(40,070;75,186)	87,314(84,179;94,519)
Influenza like illness, no medical care needed	44,511 (20,794;57,279)	

## Difficulties pertaining to Malta

After Singapore and Hong Kong, Malta is the most densely populated country. This will have a major bearing on the infectivity rate and speed with which the disease will spread. It is imperative that we slow down the spread as much as we can to reduce morbidity and mortality, to enable us to cope with the excess demand both on primary and secondary care services and to buy time until the vaccine reaches our shores. Drastic public health measures must be taken at the appropriate time like closing schools, churches, places of entertainment etc. All confirmed cases must be isolated in their homes and their contacts quarantined also in their homes.

Malta produces only 20% of its food needs and has no domestic energy sources. We depend almost entirely on other countries for food and basic necessities. If during a pandemic other countries are unable to export to us we may face additional problems of limited food and fuel reservoirs. As part of our planning we need to ensure that we have an adequate 3 month supply of food and fuel on our island to minimize this serious potential problem from occurring.

## The role of health care professions

Your main role is that of an educator. Your patients/clients listen to what you say so it is important that you convey the right information to them. These include:

- As soon as they develop symptoms they must go home and stay at home until symptoms clear completely;
- Antivirals should only be taken if the doctor prescribes it to them after confirming that they are suffering from influenza during the pandemic;
- Hand washing is the most effective way of minimizing spread of infection;
- One must ALWAYS use a tissue when coughing and sneezing and dispose of it immediately;
- Common objects like telephones, tapes, doorknobs etc should be cleaned regularly with alcohol based wipes both at home and at work places to minimize spread;
- Avoid places of mass gathering;
- Limit travel for work and to buy essential necessities;
- Encourage your patients to take the influenza vaccine every year including yourselves and your family.

## What is your role at present?

Fill in the vaccination form for every person you give the influenza jab. It should be filled in only by the person giving the injection and not by the person who just sells it to the patient. Once you have given all your vaccines send it to Public Health. Those who have not received a self addressed envelop, can contact the Department of Public Health on 21322305/21332235.

Fill in the antiviral forms for those patients who have ordered to stockpile antivirals and explain to them that they can only take it after consulting with you.

Prepare from now ways to cope with your workload during a pandemic. Telephone consultations will be necessary. Avoid seeing your patients in small clinics in pharmacies. Know your patients' medical history well to enable you to decide which of your patients will definitely need to be seen by you and which you can deal with over the phone.

# Influenza

by **Tanya Melillo Fenech**  
Principal Medical Officer  
Disease Surveillance Unit Malta

Stockpile masks (FFP2 or 3) to wear when visiting flu patients. Get into the habit from now to wash your hands after each and every patient you examine.

Keep yourself informed of what is happening globally on influenza.

Provide your contact details to the Department of Public Health to ensure you will receive timely information during the pandemic on what will be happening in our country.

Participate in the yearly influenza sentinel surveillance. ☐

## FACTSHEET

The time exposure to influenza virus and the onset of symptoms is usually two days but can vary from 1 to 5 days.

Symptoms vary with age but typically include:

- Raised temp (not always present in elderly)
- Dry cough
- Muscle pains
- Sore throat
- Headache
- Feeling weak and tired

Symptoms typically last 5-7 days.

Complications include:

- Otitis media (in children)

- Primary influenza pneumonia
- Secondary bacterial bronchitis and pneumonia
- encephalitis (rare)

Worsening or destabilisation of pre-existing diseases like cardiac failure and diabetes.

People typically acquire influenza by inhaling the virus or by being in direct contact with the respiratory tract secretions of people who are infected. The potential to infect others lasts as long as viruses are being shed from the respiratory tract. Healthy adults shed viruses from one day before onset of symptoms until about 7 days thereafter. Children start shedding the virus from around 6 days before developing symptoms and can continue for as long as 14 days after getting symptoms and people who are immunocompromised shed the virus for as long as 21 days.

## The role of the Occupational Therapist in Cardiovascular Conditions

*continued from page 10*

Following discharge from hospital, the Occupational Therapist treats the patient both individually as well as part of a team within a cardiac rehabilitation programme. The cardiac rehabilitation team consists of a number of health professions who all work towards helping the patient return to the highest level of function and independence possible. The transdisciplinary approach is characterized by professionals who are committed to teach and work across professional borders to provide an integrated service. This provides a total care plan but this necessitates team members to make joint decisions. (Cohn, 2003). The Occupational Therapist is concerned with the development and implementation of such patient education programmes to improve the patients' quality of life. Occupational Therapists require knowledge of Adult Learning Theories, Learning styles and teaching techniques. The ability to choose teaching strategies will increase understanding and communication between the health

care professional and the patient. It is therefore vital to know how much information to provide and to structure the information and provide written information which patients can comprehend in order to encourage learning (Kiger, 2004). The involvement of the patients' family in the management of their treatment gives them a sense of shared responsibility. This may empower them and thus enhances compliance with treatment plans (Kautzmann, 1992). In addition, the inclusion of family members can be an indirect source of support for the patient (Matthews, 2001).

The role of the Occupational Therapist following discharge includes:

- Increasing the patient's physical and work tolerance through graded activities;
- Teaching energy conservation techniques, pacing and work simplification;
- Teaching concepts of energy levels required to perform daily tasks using the MET (metabolic equivalent table) system;
- Time management techniques;
- Educating the patient on lifestyle changes;

- Stress management techniques;
- Liaison with the family and providing the necessary support;
- Possible home visits and advice on home activities;
- Explore work interests if not returning to previous work and provide a work tolerance programme in order to re-train for work;
- Possible work modifications to reduce cardiac stress;
- Discussion groups to discuss issues such as anxieties and fears, diet, coping skills, sex and diet;
- Helping the patient select leisure activities within his physical capabilities.

The Occupational Therapy service is provided on a referral basis to in-patients. As staff increase in number, it is hoped that a broad spectrum of cardiac conditions can be treated automatically on both an in-patient and out-patient basis. The involvement of OT in cardiac rehabilitation services will help to improve the prognosis of patients through lifestyle changes and intervention to improve functional status. It will allow them to make informed decisions about their own health status. ☐

# The role of regular exercise in cardiovascular health

by **Dr Kirill Micallef-Stafrace**  
MD, MSc Sports Med. (Lond.), FFSEM (I)  
Sports and Exercise Medicine Specialist

Exercise is a medicine that has been shown to prevent or treat many disabling or fatal diseases including noncardiovascular diseases such as non-insulin-dependent diabetes, osteoporosis, hypertension, and breast and colon cancer. The current prevailing view in the medical world is that more active or fit individuals tend to develop less coronary heart disease (CHD) than their sedentary counterparts and if CHD develops it tends to occur later in life and is often less severe.

## What are the benefits of Exercise?

The major cardiovascular risk factors are high blood pressure, dyslipidaemia, smoking, obesity and a sedentary lifestyle. Reducing these risk factors decreases the chance of having a cardiac event or coronary revascularization procedure. These can all be favourably influenced by regular physical activity.

## Effects of exercise on Cardiovascular Risk factors:

- Decrease in blood pressure (hypertension);
- Decrease in bad (total and LDL) cholesterol;
- Increase in good (HDL) cholesterol;
- Increase in insulin sensitivity;
- Reduction in body fat percentage;
- Increase in exercise tolerance;
- De-stressor effect;
- Reduction if not complete cessation of cigarette smoking.

Besides these obvious benefits there are a number of physiological improvements that further strengthen the argument for regular exercise. Amongst these there is a marked improvement in aerobic capacity (oxygen utilization by the body) and muscular function and these lead to less every day living related fatigue.

## How much Exercise?

Recommendation for Physical Activity From the CDC/ACSM Consensus Statement and Surgeon General's Report (USA):

Every adult should participate in at least 30 minutes or more of moderate intensity activity on most, and preferably all, days of the week.

- Moderate activities are: activities which are comparable to walking briskly at about 3 to 4 miles per hour and; may include a wide variety of occupational or recreational activities, including yard work, household tasks, cycling, swimming, etc.
- Thirty minutes of moderate activity daily equates to 600 to 1200 calories of energy expended per week.

The vast majority of health professionals are aware of these figures. However, what a number of professionals are not aware of is that the 30 minutes refer to accumulated time, i.e. the sum of all the moderate activity undertaken during the day. Thus 3 10 minute bouts are equivalent to 30 minutes exercise. This is vital information



for a CHD patient who could otherwise not be able to achieve the desired daily exercise quota due to easy fatigability.

## Exercise Risks

For adults without CHD, the risk of a cardiac event or complication ranges between 1 in 400 000 to 800 000 hours of exercise whilst for patients with CHD an event can occur on average once in 60 000 hours. Importantly, the risk of a cardiac event is significantly lower among regular exercisers. However it is important

to note that individuals who exercise regularly are significantly less likely to experience a problem during exercise. Appropriate exercise is therefore extremely safe. Nevertheless, it is a good idea to make your patients aware of the warning signs or symptoms that may indicate a problem.

## Tips on how to start Exercising

- Get a medical check up even if you are healthy. If you suffer from a chronic disease a more thorough check up might be warranted;
- If you suffer from a chronic disease a more thorough check up might be warranted;
- Start cautiously and slowly increase the time and frequency;
- Choose an activity you like and if possible one you are familiar with;
- Exercising with a partner makes it easier, more fun and harder to stop;
- Warm up, cool down and stretch with every activity;
- The Use of a Heart Rate Monitor can help you maintain the desired exercise intensities;
- Drink fluids and adjust your exercise according to the weather conditions;
- Ensure that you are in a safe environment and your training equipment is the correct one (e.g. footwear);
- Inform your family where you are exercising and how long you shall be out for;
- Most of all enjoy it.

It is important to remember that as health professionals many of us should already exercise, and if we do not, we **must** exercise for our own health and well-being. **WE ARE ROLE MODELS !!**

continued from page 10

Furthermore, passive, active – assisted and active trunk, shoulder girdle and lower limb exercises, are used to maintain joint range of motion (ROM) and prevent post-operative postural abnormalities and joint problems (Kieran et al, et al., 1993).

Patients who have undergone CABG or PTCA, may experience some spontaneous recovery of exercise capacity even if they do not participate in exercise training. However the recovery time may be longer, and the extent of recovery is usually less than that of patients who are undergoing

exercise training (Lan et al, et al., 2002).

Other researchers, comment that the quality of life (QoL) is often worse during the initial months after surgery than it had been prior to surgery. It is at this stage that patients should be introduced to CR programmes.

Patients completing rehabilitation programmes which include exercise, tend to experience a decrease in blood pressure, weight loss, improved muscle tone, increased exercise capacity and tolerance, decreases decrease in debilitating symptoms, as well as a general improvement in cardiac functioning (Barber et al, et al., 2001). It is however highly

important for patients to attend cardiac rehabilitation sessions, so that they can be guided by a physiotherapist on the sufficient intensity of the exercises that should be carried out. Therefore maximum benefit can thus be achieved, and patients can be taught how to exercise to an intensity which is both safe and effective.

In the long run, behavioural lifestyle modification, in combination with physical exercise are more effective at relieving symptoms in people with heart disease than a major surgical procedure and it is definitely much more cost effective. (Circulation, 2004).

## Critical Illness: A Cash Cushion to Soften Health Blows

by J. G. P. Bonello, F.L.I.A., MANAGING DIRECTOR  
FINANCIAL PLANNING SERVICES LIMITED

**“On Monday, December 4, 1967 the world awoke to the incredible news that the first heart transplant in human history had been performed the night before. What made this more astonishing was that this historic operation had been performed not in America, Britain or Europe but on the southern tip of Africa, in Grootte Schuur Hospital, Cape Town. I was a member of that first heart-transplant team, led by my brother, Professor Chris Barnard.”**

This quotation is taken from a speech delivered at the June 2004 Annual Meeting of MDRT – The Premier Association of Financial Professionals in Anaheim, California. The speaker was Dr Marius Barnard, the youngest of the four Barnard brothers.

I had already had the pleasure, and the privilege, of meeting Marius Barnard in Kuala Lumpur, Malaysia ten years earlier, in May 1994. We were guest speakers at a conference organised by the National Association of Malaysian Life Insurance Agents. I spoke about the economic value of human life and the magic of the centuries-old concept of permanent life insurance, which recreates the economic value lost. Dr Barnard delivered an impassioned presentation on the vital importance of the then decade-old development of critical illness cover, which, contrary to disability income or medical and health insurance, simply paid out an upfront lump sum of money upon the diagnosis of a specified, major critical illness. He implored us to add it to our clients’ protection portfolio.

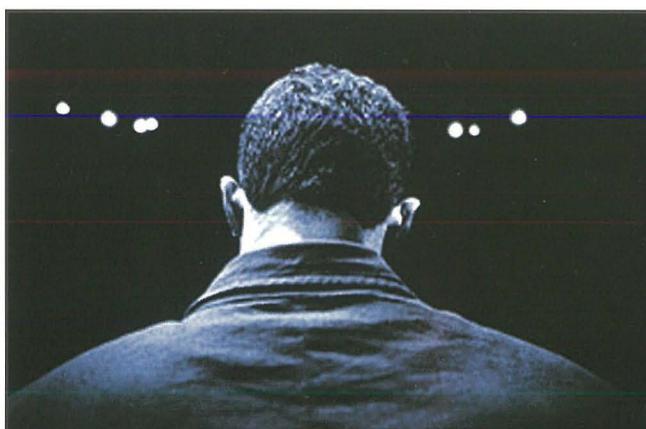
Over dinner, Dr Barnard explained to me that he could see, from the best possible vantage point, the dire financial straits that his patients fell into when they were unable to return to work and support their families. “Our first transplant patient died after 18 days, whilst our second survived for 18 months. However, the fifth survived for 15 years and the eighth for 23 years.”

Talking of his eighth heart transplant patient, Marius Barnard said: “his heart muscle had been destroyed by four heart attacks in seven years; his breathing was laboured, he could not walk, and became bedridden. He was only a few weeks, if not days, from death. Then, he received a new heart and survived for 23 years!”

“When he visited us for routine check-ups, he hardly ever complained about his health. He complained about one thing only – money – or rather, the lack of it. His business went bankrupt and he even had to sell his house. Understandably, he lost his self-esteem. What’s more, when he died, his life insurance policy paid out nothing. Why? Because he could not continue paying the premiums, and had to let it lapse many years earlier.”

This case and many others were what set Marius Barnard on what he referred to as his “new crusade”. Because after increasing the quantity of patients’ lives, he became driven to find ways and means of increasing the quality of post-illness survival – “there was just nothing that we, as doctors, could do about it. Why I thought of insurance, I’ll never know, except that I perceived it to be

**“You the reader – whether a doctor or not – may have seen so many dreams destroyed, and so many hardships caused by the economic strain following the diagnosis and treatment of critical illness”**



something that would create money at a time when this was needed the most.

Patients need money when critical illness is diagnosed, to guarantee them immediate financial health when their physical health deteriorates.

They need life insurance to protect their families when they die, but they need critical illness insurance because they are going to live.

In 1980, Marius Barnard started a long search for re-insurers, and for an insurance company prepared to launch such a product. After three years fraught with frustration, disappointment, and failure, in 1983, the world’s first critical illness policy was launched. It guaranteed the payment of a pre-selected lump sum upon a diagnosis of any of the four covered critical illnesses: heart attack, stroke, cancer and coronary bypass surgery.

Today, more than one million policies have been issued in the U.K., and millions more around the world.

Critical illness insurance is today recognised as the risk product for the new millennium, and covers many more than the original four conditions. More than 80 percent of claims have been for heart attack, stroke and cancer. Even more significantly, the average age of claimants has been 42 years.

The miraculous developments in the medical field have created life expectancies of 80 years and more. Prolonging the quantity of life requires of financial advisors that they guide clients into creating the money needed to maintain the quality that should go with a longer life, should they suffer a critical illness.

You the reader – whether a doctor or not – may have seen so many dreams destroyed, and so many hardships caused by the economic strain following the diagnosis and treatment of critical illness.

*continues on page 16*

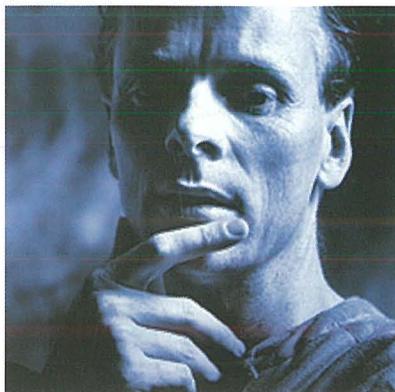
## Critical Illness: A Cash Cushion to Soften Health Blows

The physical and emotional toll that a critical illness takes on a person, and their family, may not be so well known and/or documented. What becomes less obvious to those not directly involved, is the financial decline – sometimes devastation – that results from months, and often years, of dealing with a disease.

Statistics tell us that almost one out of every three families caring for a patient suffering from a critical illness, lose a large part – if not all – of their savings over a two-year period. In the case of cancer, perhaps the most commonly discussed of all critical illnesses, nearly two-thirds of the total costs of fighting the disease are indirect, or non-medical costs.

### How to buy it

You will by now have learned to ignore the adverts and the brochures. An initial thorough understanding pre-empts problems at claim time. Therefore, ask for, and insist on being given, a copy of the actual policy document. Any company refusing to, should be reported to the Malta Financial Services Authority. The policy



document will list each critical illness covered and its definition. Remember, any claims will be paid on the basis of the legal interpretation of the critical illness, as defined in the document.

The next step is to establish an amount that you would want to receive, should a critical illness be diagnosed. I suggest a figure equivalent to three to four times your annual income. Now, ask for the premium rate to cover this amount – but keep in mind that the premium quoted will be

virtually irrelevant until the medical examination establishes whether you qualify for standard rates.

With this information, refer to an independent financial advisor who will obtain comparative quotes, and analyse comparative illness definitions.

*Caveat emptor:* this is about your money and your peace of mind. Critical illness is a very specialised type of cover. When choosing an intermediary – even if it is our company – do not be in the least inhibited: ask blunt, point-blank questions about the years of experience, knowledge and claims settled. ☒

**“One out of three families caring for a patient suffering from a critical illness, lose a large part – if not all – of their savings over a two-year period”**



Ask your contact persons Matthew, Elaine and Joe

*Their advice:*

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