



Welcome to the first issue of 2018. We have put together many interesting articles and we hope you enjoy reading them.

In our *Centre Stage* section, we bring you expert advice on "Osteoporosis" by Consultant Rheumatologist and Internal Medicine Physician, Dr. Ramani Arumugam. Dr. Sargunan Sockalingam's regular section "*Doc Talk*" addresses the future of medicine and is a must-read to keep abreast of the latest technological advancements in medicine. Consultant Pediatric Rheumatologist, Dr. Tan Swee Ping, shares with us the disturbing plight of children with juvenile arthritis who are unable to make it to their vital appointments with the doctor because of lack of funds to travel. She thus highlights the need to donate to the *AFM Travelling Fund for Kids*, which supports children and families in situations like these.

In our "*Myth of the Month*" section, we address the importance of establishing good dietary habits and share some pointers with regards to gout. So if you do know of anyone struggling to manage gout please share this information with them. But it is important to note that for all of us, good dietary habits are non-negotiable in the pursuit of good health. In the "*News*" section, we bring you the latest research findings published and in this issue we have the effect of menopause on the functional status on women with Rheumatoid Arthritis! So to all our women members, be sure to read that.

So do join our vibrant Rheumatoid Arthritis Support Group (RASG) activities, especially the weekly PACE exercise classes conducted by the very professional Physio Plus team and designed especially for you, the members. Stay connected, stay informed, stay active. And do take time out of your busy schedule to do the little things that bring you joy every day.

Shailaja Menon
Editor

IN THIS ISSUE

- 02 President's Note**
- 03 News**
- 05 Centre Stage**
Osteoporosis
- 17 Myth Of The Month**
Diet has no role in arthritis management
- 20 JIA Travelling fund**
When Your Doctor Is Not Just Around The Corner; Introducing The "AFM Travelling Fund" For Kids
- 23 Get Moving**
Looking After The Skeleton In Your Closet
- 26 Q&A**
- 27 Profile**
In Conversation with Rukmani Devi
- 28 RASG**
PACE
- 29 EVENTS**
Genting
- 30 Doc Talk**
- 31 AFM Membership Form**

PRESIDENT'S NOTE

Once again, I am proud to present the April 2018 edition of our Joint Efforts magazine. Thus far, it has been a productive year. Many activities are being planned for the remainder of 2018. The World Ankylosing Spondylitis Day event which was a success last year will continue, but this time we will focus on a virtual presence too. There is more on this in my article featured in the "Doc Talk" section of this magazine.

Arthritis Foundation Malaysia plans to have a stronger online presence. The Facebook page continues to generate interest and participation from a wide range of groups. The support group is ever active and I look forward to their continued efforts. We have had productive meetings. During these meetings, we take the opportunity to discuss the ever increasing need to provide assistance to patients with Rheumatoid Arthritis, Ankylosing Spondylitis and Psoriatic Arthritis. We are one step closer toward providing this assistance.

Considerable effort is required to streamline the process, and what remains is the establishment of protocols and procedures that will hopefully enable the smooth disbursement of aid to the patients. It is quite an uphill effort to raise funds, but rest assured, we at AFM will do our very best.

I am hopeful that by the time the next issue of Joint Efforts is published, we would be reporting on the first recipients of the Advanced Therapies in Arthritis Fund. We hope that we can provide this service to everyone who applies for it.

Please keep a look out on our website for further information. I hope you enjoy this issue of Joint Efforts and continue to support us with your enthusiasm and participation in all our events.

Dr. Sargunan Sockalingam
President, AFM



Sekali lagi saya berbesar hati membentangkan majalah Joint Efforts edisi April 2018. Setakat ini, tahun 2018 merupakan tahun yang produktif dan banyak aktiviti yang telah kita rancang untuk tahun ini. Acara hari Ankylosing Spondylitis Sedunia yang berjaya diraikan tahun lalu akan diteruskan pada tahun ini, cuma kali ini kita juga akan memfokuskan kepada kehadiran maya. Saya akan ceritakan lebih lanjut lagi dalam artikel saya di bahagian "Doc Talk" majalah ini.

Yayasan Arthritis Malaysia berhasrat untuk memantapkan kewujudan secara dalam talian. Halaman Facebook terus mendapat perhatian dan penyertaan daripada pelbagai kumpulan. Kumpulan sokongan ini aktif dan saya sangat berharap akan usaha berterusan mereka. Kami telah bermesyuarat di mana kami mengambil peluang untuk membincangkan keperluan bantuan yang semakin meningkat bagi pesakit Rheumatoid Arthritis, Ankylosing Spondylitis dan Psoriatic Arthritis. Kami kini semakin hampir dalam menyediakan bantuan ini.

我再次骄傲的在这里,向各位读者呈献我们基金会的2018年四月刊会讯。从年头至今,这一年尚属颇有建树,而我们也已经把2018年剩余时间里的各项活动规划妥当。去年成功圆满举行过的僵直性脊椎炎日活动,今年会继续再办,不过今年它也把重心放在虚拟存在方面。我在《医生之言》(Doc Talk) 部分会进一步谈及它。

大马关节炎基金会也打算加强在网上的存在。我们的面子书页面一如既往不断地在唤起广大民众的兴趣,以及召唤他们参与基金会的活动。互助小组时刻都是那么的活跃,我也放眼他们继续加油和努力。我们召开过的会议都挺有成效,会议讨论了如何为类风湿性关节炎患者、僵直性脊椎炎患者以及硬皮症关节炎患者们提供援助,因为这方面的需求正在与日俱增中。我们又进一步缩短了与这个目标的距离。

为了简化流程,我们投入了很多精神及努力,剩下的是建立协议和程序,以便能顺畅向有需要的患者释出援助。筹募基金并不容易,但是各位请放心,大马关节炎基金会的同人定会敬尽所能去进行,达成目标。

我期望在下一期的会讯出版时,我们将能够向各位报道首位在关节炎基金下受惠而接受先进医疗的患者的消息。我们希望能够向每一位申请的人士提供这项服务。

敬请留意我们在网站上发布的更多详情。谨此祝您阅读愉快,也请您继续用热忱和行动来支持我们,积极参与我们所办的各个活动。

沙谷南医生
大马关节炎基金会主席

Usaha yang jitu diperlukan untuk menyelaraskan proses dan mudah-mudahan protokol dan prosedur yang dibentuk akan memudahkan pemberian bantuan kepada pesakit. Mengumpul dana pula bukanlah mudah, walau bagaimana pun, kami di AFM akan mencuba yang terbaik.

Saya berharap moga menjelang edisi Joint Efforts yang akan datang, kami akan dapat melaporkan tentang penerima bantuan Dana Terapi Lanjutan Arthritis yang pertama. Harapan kami agar kami akan dapat menyediakan perkhidmatan ini kepada semua yang memohonnya.

Sila layari laman web kami untuk maklumat lanjut. Saya harap anda semua gembira dengan terbitan Joint Efforts kali ini dan akan terus menyokong kami dengan semangat dan menyertai semua acara kami.

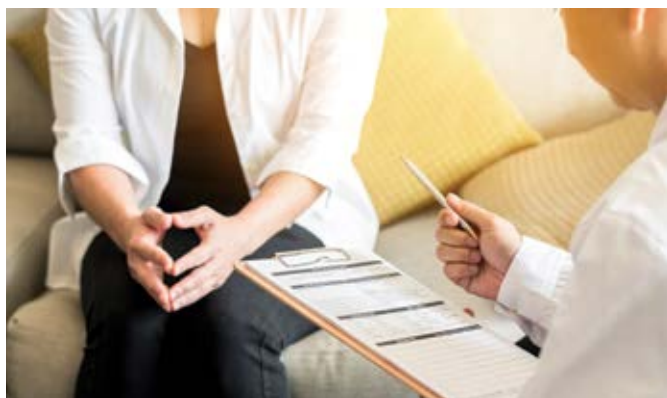
Dr. Sargunan Sockalingam
Pengerusi, AFM

The impact of menopause on functional status in women with rheumatoid arthritis

January 29, 2018: A recent study published in *Rheumatology* suggests that women with rheumatoid arthritis suffer a greater decline in physical function following menopause. After studying 8189 women with rheumatoid arthritis, researchers found that pre-menopausal women experienced a slower physical decline than those that were post-menopausal.

Physical function is an important aspect of study in patients with rheumatoid arthritis as it impacts their quality of life. Women experience rheumatoid arthritis at a rate three times greater than men, and also have more severe decline and increased disability, yet the sex-based differences in the condition remain poorly understood.

Previous studies have shown that women with rheumatoid arthritis experience shifts in their disease surrounding reproductive and hormonal life events, such as childbirth. During pregnancy, women have decreased incidence of rheumatoid arthritis, yet they have an increased incidence of disease development and flare during the post-partum period. Similarly, women who experience early menopause are more likely to develop rheumatoid arthritis compared to those who experience normal or late menopause.



Given these connections between hormonal or reproductive life events and rheumatoid arthritis in women, researchers conducted an observational study to investigate the association of menopause with functional status in women with the disease. The results indicate that menopause has a significant impact on the level and rate of functional decline in women with rheumatoid arthritis and is associated with a worsening progression of the effects of the disease.

Source: Materials provided by Oxford University Press USA.

Small molecule could make a big difference for arthritis patients

February 7, 2018: Will there come a time when a patient with arthritis can forgo joint replacement surgery in favor of a shot? Keck School of Medicine of USC scientist Denis Evseenko, MD, PhD, has reason to be optimistic.

In a new publication in the *Annals of Rheumatic Diseases*, Evseenko's team describes the promise of a new molecule aptly named "Regulator of Cartilage Growth and Differentiation," or RCGD 423 for short. As its name implies, RCGD 423 enhances regeneration while curbing inflammation. When RCGD 423 was applied to joint cartilage cells in the laboratory, the cells proliferated more and died less, and when injected into the knees of rats with damaged cartilage, the animals could more effectively heal their injuries.

RCGD 423 exerts its effects by communicating with a specific molecule in the body. This molecule called the glycoprotein 130 (Gp130) receptor, receives two very different types of signals: those that promote cartilage development in the embryo, and those that trigger chronic inflammation in the adult. RCGD 423 amplifies the Gp130 receptor's ability to receive the developmental signals that can stimulate cartilage regeneration, while blocking the inflammatory signals that can lead to cartilage degeneration over the long term.

Given these auspicious early results, the team is already laying the groundwork for a clinical trial to test RCGD 423 or a similar molecule as a treatment for osteoarthritis or juvenile arthritis.

"The goal is to make an injectable therapy for an early to moderate level of arthritis," says Evseenko, associate professor of orthopaedic surgery. "It's not going to cure arthritis, but it will delay the progression of arthritis to the damaging stages when patients need joint replacements, which account for a million surgeries a year in the U.S."



Source: Materials provided by University of Southern California - Health Sciences.



Bacteria in milk and beef linked to rheumatoid arthritis

January 30, 2018: According to a new study from the University of Central Florida, published in the *Frontiers in Cellular and Infection Microbiology* journal, a strain of bacteria commonly found in milk and beef may be a trigger for developing rheumatoid arthritis in people who are genetically at risk.

A team of UCF College of Medicine researchers has discovered a link between rheumatoid arthritis and *Mycobacterium avium* subspecies *paratuberculosis*, known as MAP, a bacteria found in about half the cows in the United States. The bacteria can be spread to humans through the consumption of infected milk, beef and produce fertilized by cow manure.

The UCF researchers are the first to report this connection between MAP and rheumatoid arthritis. The study, funded in part by a \$500,000 grant from the Florida Legislative, was a collaboration between Saleh Naser, UCF infectious disease specialist, Dr. Shazia Bég, rheumatologist at UCF's physician practice, and Robert Sharp, a biomedical sciences doctoral candidate at the medical school.

Naser had previously discovered a connection between MAP and Crohn's disease and is involved in the first ever phase III-FDA approved clinical trial to treat Crohn's patients with antibiotics. Crohn's and rheumatoid arthritis share the same genetic predispositions and both are often treated using the same types of immunosuppressive drugs. Those similarities led the team to investigate whether MAP could also be linked to rheumatoid arthritis.

"Here you have two inflammatory diseases, one affects the intestine and the other affects the joints, and both share the same genetic defect and treated with the same drugs. Do they have a common trigger? That was the question we raised and set out to investigate," Naser said.

For the study, Bég recruited 100 of her patients who volunteered clinical samples for testing. Seventy-eight percent of the patients with rheumatoid arthritis were found to have a mutation in the PTPN22/22 gene, the same genetic mutation found in Crohn's patients, and 40 percent of that number tested positive for MAP.



"We believe that individuals born with this genetic mutation and who are later exposed to MAP through consuming contaminated milk or meat from infected cattle are at a higher risk of developing rheumatoid arthritis," Naser said. The team is conducting further studies to confirm findings and plan to study patients from different geographical and ethnic backgrounds.

Source: Materials provided by University of Central Florida.

OSTEOPOROSIS

It is very common these days, in conversations with friends, to hear the term 'osteoporosis' bandied about. So we decided to explore the topic further and **Dr. Ramani Arumugam**, Consultant Rheumatologist and Internal Medicine Physician, very kindly took time off from her busy schedule to share her expertise with us.



Bone is a living tissue that continuously renews itself. It has two parts, the outer hard part called cortical bone and the inner soft spongy bone called trabecular bone. If the bone is hard all the way through it makes it easier to fracture.

The effect of osteoporosis on bone



Normal bone



Bone effected by osteoporosis

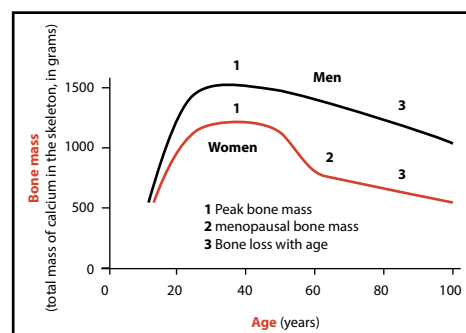
Peak Bone Mass

The bone remodels itself regularly through a process called absorption to form new bone and resorption to remove old bone. This balance of absorption and resorption keeps the bone healthy. But at different stages of life, the rate of absorption and resorption changes. The building blocks of bone are calcium and vitamin D.

In childhood and adolescence, new bone is formed very quickly. This allows our bones to grow bigger and stronger (denser). Peak bone mass is reached at around late 20's. After the age of 30 years the rate of absorption and resorption are the same. The adult skeleton is completely renewed over a period of 7–10 years.

From the age of 40 years the rate of resorption of bone is higher thus the bone density becomes less. We use the term "osteoporosis" when the bones become fragile due to loss of density resulting in a higher incidence of fracture. Women have a 4-times higher chance of getting osteoporosis when compared to men because resorption rate is higher when there is loss of oestrogen during menopause. Men have a higher peak bone mass to start with. After the age of 40, when resorption rates start to get higher than the absorption rates, men have less incidence of osteoporosis as they start off with higher peak bone mass.

Graph showing typical total bone mass in men and women



Pictures courtesy of Arthritis research UK

Diagnosis of Osteoporosis

Diagnosis is usually done by doing a DEXA scan (dual energy X-ray absorptiometry) to measure the density of your bones and calculate the T-score.

Normal	Bone mineral density (BMD) ≥ -1.0 SD of young adult reference range (T-score ≥ -1.0)
Osteopenia	BMD between -1.0 SD and -2.5 SD below the the young adult mean (-1.0 > T-score > -2.5)
Osteoporosis	BMD ≤ -2.5 SD of the young adult mean (T-score ≤ -2.5)
Severe / Established Osteoporosis	BMD ≤ -2.5 SD of the young adult mean with the presence of 1 or more fragility fractures

Pictures courtesy of International Osteoporosis Foundation

Risk factors for osteoporosis

Steroids	Used for more than 3 months in inflammatory arthritis and connective tissue disease.
Lack of oestrogen	Early menopause before the age of 45, removal of ovaries.
Lack of weight-bearing exercises	Exercise improves bone health. Swimming is not a weight-bearing exercise. Walking and carrying one's own weight is termed as weight-bearing exercise. Exercise also improves muscle strength to prevent falls. Too much exercise, which suppresses periods, weakens bones.
Smoking	Tobacco is toxic to bones as it lowers testosterone levels which weakens bones.
Diet	Lack of calcium and vitamin D as they are the building blocks of bones. Anorexia, Coeliac disease and being underweight increases bone loss.
Alcohol	Excessive alcohol intake decreases the absorptive process of the bones.
Family history of osteoporosis and ethnicity	Inherited factors that affect bone development.

FRAX score

Not everyone needs a DEXA Scan. The FRAX calculator was developed by the World Health Organization (WHO) to help assess your risk of fracture and decide whether you should have a DEXA scan or treatment for osteoporosis. The FRAX calculator takes into account whether you have already had a low impact fracture, been on steroids for more than 3 months, had early menopause before the age of 45, whether your mother has had a hip fracture, whether your BMI body mass index is less than 19 and whether you have any other disease that can affect bones like Rheumatoid arthritis.

Pictures courtesy of International Osteoporosis Foundation

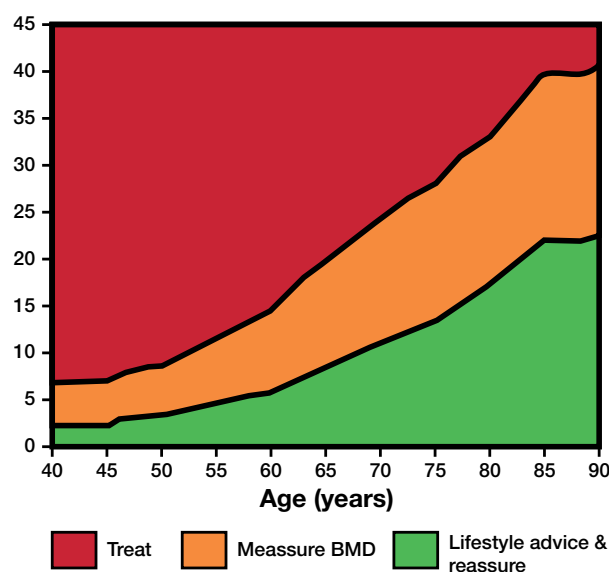
Secondary osteoporosis refers to disorders strongly associated with osteoporosis such as type I insulin dependent diabetes, osteogenesis imperfecta in adults, untreated long-standing hyperthyroidism, hypogonadism or premature menopause before age 45, chronic malnutrition, or malabsorption and chronic liver disease. Frax is also dependent on the country that you live in, your age, gender and ethnicity.

Interpreting the FRAX score

The FRAX score will show you the 10-year probability of fracture risk (in %) of major osteoporotic fracture or hip fracture which is then plotted on the Interventional threshold graph. If X is on the green portion of the graph, then only lifestyle advice and reassurance is given. If it falls on the yellow part of the graph, we proceed with a DEXA scan and if it is in the red, treatment is warranted.

Assessment threshold - Major fracture

10 year probability of major osteoporotic fracture (%)



Why do we need to treat?

Patients with osteoporosis are usually asymptomatic and the first inclination of the disease is a fracture. The problems with fractures are:

1. Cost. According to the Malaysian CPG guidelines on Management of Osteoporosis 2012, the direct hospitalisation cost for hip fractures in 1997 is estimated at RM 22 million. This is a gross underestimate of the total economic burden, as it does not take into account the costs incurred in rehabilitation and long-term nursing care. Therefore, in an ageing population this cost will escalate without appropriate intervention. The cost in 2018 will be exponentially higher.
2. Hip fractures, if not treated, leads to respiratory infection, deep vein thrombosis, pressure ulcers etc as the patient is bedridden which furthers bone loss.
3. Spine fractures are associated with higher morbidity and mortality.

Reference: Lee JK, Khir ASM. The incidence of hip fracture in Malaysians above 50 years of age: variation in different ethnic groups. APLAR J Rheumatol 2007;10:300-5

Treatment of Osteoporosis

Management of Osteoporotic Fractures

The goals of treatment are early mobilisation and return to normal activities.

Thus hip fractures are treated with early surgical intervention. Spine fractures are mostly stable and require surgery if there is spinal cord or nerve root compression.



Pharmacological treatment

1. Calcium and vitamin D
2. Bisphosphonates
(alendronate, risedronate, ibandronate, etidronate, zoledronate)
3. Teriparatide and parathyroid hormone
4. Raloxifene
5. Calcitonin
6. Denosumab
7. Strontium
8. Hormone replacement therapy (HRT)

The type of treatment required is best taken after discussion with your rheumatologist. Treatment is usually given for 5 years, and then a drug holiday is given. This is to prevent abnormal bone formation which is hard and may result in a fracture. Prior to starting any medication, it is advisable to visit your dentist to make sure there is no gingivitis or gum resorption. This is because all medication can have the rare side effect of "Osteonecrosis" of the jaw which usually occurs when you have poor oral hygiene.

Malaysian Osteoporosis CPG Guidelines - Recommended Daily Calcium Intake

	Age	Recommended Intake
Infants	0 - 6 months	300 mg (breast-fed) 400 mg (non-breast-fed)
	6 - 12 months	400 mg
Children	1 - 3	500 mg
	4 - 6	600 mg
	7 - 9	700 mg
Adolescents (boys & girls)	10 - 18	1000 mg
Men	19 - 49	800mg
	> 50 years	1000mg
Women	19 - 49	800mg
	> 50 years	1000mg
Pregnant Lactating	Third trimester	1000mg 1000mg

Nonpharmacological treatment

Diet

As calcium and vitamin D are the building blocks of bones, adequate diet of calcium and vitamin D are essential to maintain strong and healthy bones

Calcium

The best sources are:

- a. Dairy products such as milk, cheese and yogurt
- b. Calcium-enriched milks made from soya, rice or oats
- c. Fish that are eaten with the bones (such as tinned sardines)
- d. Skimmed and semi-skimmed milk contains more calcium than full-fat milk
- e. Green leafy vegetables such as cabbage, kale, broccoli, watercress
- f. Beans and chick peas
- g. Some nuts, seeds and dried fruits

The recommended daily intake of calcium is 1000mg.

There may be a negative effect on heart health with calcium supplementation but supplementation is needed if dietary intake is inadequate.

Calcium contents of foods from the Malaysian CPG guidelines

Food	Calcium content (mg)
1 glass of high calcium milk (200ml)	500
1 glass of skimmed milk (200ml)	250
1 glass of full cream milk (200ml)	220
1 cup of yoghurt (150g)	200
1 piece of tofu (150g)	200
½ cup of yellow dhal (100g)	170
1 cup of spinach (56g)	160
1 cup of ice-cream (156g)	150
1 cup watercress (sai-yong choy) (50g)	100
1 piece of cheddar cheese (20g)	100
1 cup of mussels (160g)	100
½ cup of ikan billis (dried without head & entrails) (20g)	100
1 piece of canned sardine (40g)	100
1 cup of baked bean (240g)	100
1 cup of mustard green (sawi), cekur manis, kai lan or pucuk ubi kayu (50 - 80g)	100
1 piece of tempeh (70)	50
1 cup of soy bean milk (200ml)	40
1 cup of broccoli (95g)	40
10 almonds (15g)	30
* 1 cup = 200ml	

CENTRE STAGE

Vitamin D

Vitamin D helps in the absorption of calcium into your bones. Regardless of the amount of calcium ingested, it will not go to your bones if your vitamin D levels are inadequate. Vitamin D3 is obtained from the sun. The recommendation is to expose your arms, legs and face (without sunblock) to the morning sun for 20 minutes a day.

Vitamin D is also essential for muscle health, balance, general well being, skin, nails, and hair. It also reduces the chances of getting some forms of cancer and boosts the immune system. Although Malaysia is a country full of sunshine, many people here have inadequate vitamin D levels, as most women in Asia avoid the sun. The use of make-up with sun block, wearing clothing that covers the whole body and staying indoors avoiding the sun are some of the reasons. As we age, our skin thins out and absorption of vitamin D from the sun is affected.



Supplementation of Vitamin D3 is recommended for:

- Those who don't go outside enough especially the elderly who are bedridden or people who are housebound or in a care home.
- Those who wear clothes that cover the whole of the body and/or the face.
- Ethnic groups with dark skin, including people from African, Afro-Caribbean and South Asian backgrounds, because people with dark skin pigmentation are less able to absorb vitamin D through the skin due to the protective effect of melanin.

Foods which naturally contain vitamin D include eggs and oily fish, particularly herrings, salmon and mackerel. Some foods are fortified with vitamin D, such as margarine, various breakfast cereals and powdered milk. The daily recommended vitamin D3 intake is 400IU to 800IU. However, if your vitamin D levels are inadequate or deficient then higher doses of vitamin D3 are recommended.

Exercise

Weight-bearing exercise (any activity that involves walking or running) is better for bone strength than non-weight-bearing exercises such as swimming and cycling. Tai chi, in particular, can be very effective in reducing the risk of falls.



Others

- Prevent falls. Make sure the floor is not slippery especially in the bathroom, use walking aids, mop up spills straight away and make sure the house is free from clutter. Correct poor vision and maintain caution on taking certain medications like sedatives.
- Stop smoking.
- Reduce alcohol consumption to less than 14 units a week as it can affect new bone formation.

OSTEOPOROSIS

Osteoporosis kini semakin menjadi sebutan dalam perbualan dengan rakan-rakan. Oleh itu, kami memutuskan untuk meneroka topik ini dan **Dr. Ramani Arumugam**, Perunding Reumatologi dan Pakar Perubatan Dalamam, telah sudi meluangkan masanya, walau pun jadualnya sibuk, untuk berkongsi kepakarannya dengan kami.



Tulang merupakan tisu hidup yang terus memperbaharui dirinya sendiri. Ia mempunyai dua bahagian, iaitu bahagian keras luar yang disebut sebagai tulang kortikal dan tulang lembut bahagian dalam yang disebut tulang trabekular. Sekiranya tulang itu keras sepenuhnya, ia akan menjadi lebih mudah patah.

Jisim tulang puncak

Tulang membentuk semula secara kerap melalui proses yang disebut penyerapan untuk membentuk tulang baru dan resorpsi untuk menghilangkan tulang lama. Keseimbangan penyerapan dan resorpsi ini mengekalkan kesihatan tulang. Tetapi pada peringkat kehidupan yang berbeza, kadar penyerapan dan resorpsi berubah. Asas pembinaan tulang adalah kalsium dan vitamin D.

Pada zaman kanak-kanak dan remaja, tulang baru terbentuk dengan cepat. Ini membolehkan tulang kita menjadi lebih besar dan lebih kuat (padat). Jisim tulang puncak dicapai sekitar usia 20-an. Selepas usia 30 tahun kadar penyerapan dan resorpsi adalah sama. Rangka orang dewasa diperbaharui sepenuhnya dalam tempoh 7-10 tahun.

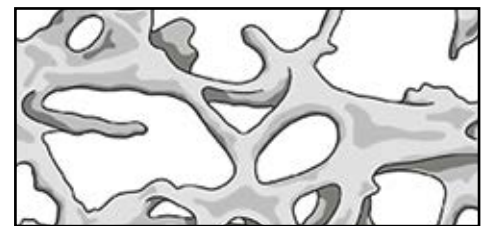
Selepas usia 40 tahun, kadar resorpsi tulang adalah lebih tinggi dan ketumpatan tulang pula menjadi semakin kurang. Kami menggunakan istilah “osteoporosis” apabila tulang menjadi rapuh kerana kehilangan ketumpatan

mengakibatkan insiden fraktur yang lebih tinggi. Wanita berisiko 4 kali lebih tinggi untuk mendapat osteoporosis jika dibandingkan dengan lelaki kerana kadar resorpsi mereka adalah lebih tinggi apabila hilangnya estrogen semasa menopause. Lelaki pula sememangnya mempunyai jisim tulang puncak yang lebih tinggi. Selepas usia 40 tahun, apabila kadar resorpsi mula melebihi kadar penyerapan, lelaki mempunyai kebangkalian insiden osteoporosis yang kurang daripada wanita kerana mereka bermula dengan jisim tulang puncak yang lebih tinggi.

Kesan osteoporosis pada tulang

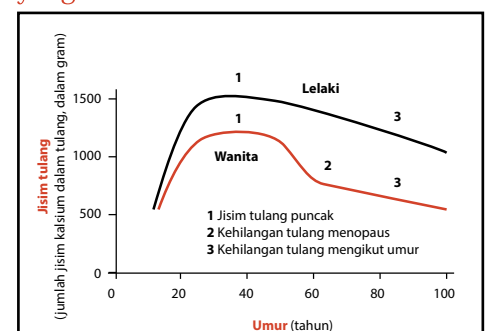


Tulang biasa



Tulang yang terjejas oleh osteoporosis

Graf menunjukkan jumlah jisim tulang yang normal untuk lelaki dan wanita



Gambar ihsan daripada Arthritis Research UK

Diagnosis Osteoporosis

biasanya dibuat dengan melakukan imbasan DEXA (dual energy X-ray absorptiometry) untuk mengukur ketumpatan tulang anda dan mengira skor-T.

Biasa	Ketumpatan mineral tulang (BMD) ≥ -1.0 SD julat rujukan dewasa muda (skor-T ≥ -1.0)
Osteopenia	BMD antara -1.0 SD dan -2.5 SD bawah min orang dewasa muda (-1.0 > skor-T > -2.5)
Osteoporosis	BMD ≤ -2.5 SD min orang dewasa muda (skor-T ≤ -2.5)
Osteoporosis Teruk / Established	BMD ≤ -2.5 SD min orang dewasa muda dengan kehadiran 1 atau lebih keretakan rapuh

Gambar ihsan daripada International Osteoporosis Foundation

Faktor risiko osteoporosis

Steroid	Digunakan selama lebih daripada 3 bulan dalam radang arthritis dan penyakit tisu penghubung.
Kekurangan estrogen	Menopaus awal sebelum usia 45 tahun, pembuangan ovari. Latihan meningkatkan kesihatan tulang Berenang bukanlah latihan berat badan.
Kurang senaman berat badan	Senaman meningkatkan kesihatan tulang. Berenang bukanlah senaman berat badan. Berjalan dan membawa berat badan sendiri dianggap sebagai senaman berat badan. Senaman juga meningkatkan kekuatan otot untuk mengelakkan terjatuh. Terlalu banyak senaman, yang menghalang haid akan melemahkan tulang
Merokok	Tembakau adalah toksik kepada tulang kerana ia mengurangkan paras testosteron yang melemahkan tulang.
Diet	Kekurangan Kalsium dan Vitamin D kerana kedua-dua bahan ini adalah asas untuk membentuk tulang. Anorexia, penyakit Celiac dan kekurangan berat badan meningkatkan kehilangan tulang.
Alcohol	Pengambilan alkohol yang berlebihan mengurangkan proses penyerapan tulang.
Sejarah osteoporosis keluarga dan etnik	Faktor-faktor yang diwarisi yang mempengaruhi perkembangan tulang.

Skor FRAX

Bukan semua orang memerlukan Imbas DEXA. Kalkulator FRAX telah dibangunkan oleh Pertubuhan Kesihatan Sedunia (WHO) untuk membantu menilai risiko patah tulang anda dan memutuskan sama ada anda sepatutnya mempunyai imbasan DEXA atau rawatan untuk osteoporosis. Kalkulator FRAX mengambil kira sama ada anda telah mengalami fraktur kesan rendah, telah mengambil steroid selama lebih daripada 3 bulan, telah menopause awal sebelum umur 45 tahun, sama ada ibu anda pernah mengalami patah pinggul, sama ada indeks jisim badan BMI anda kurang daripada 19

dan sama ada anda mempunyai penyakit lain yang boleh mempengaruhi tulang seperti arthritis Rheumatoid.

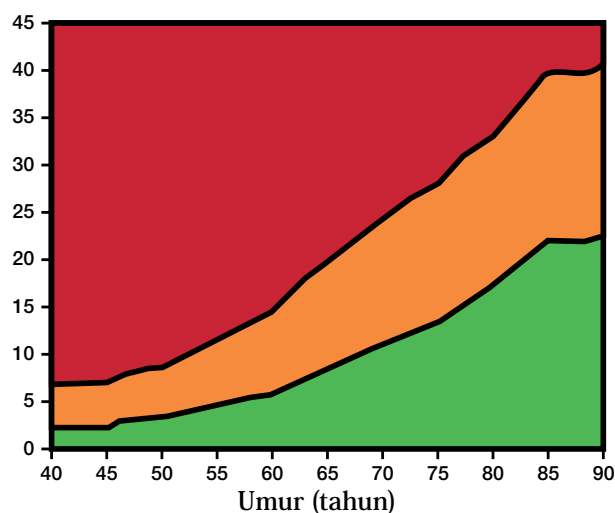
Osteoporosis sekunder (merujuk kepada gangguan yang sangat berkaitan dengan osteoporosis seperti diabetes jenis I yang bergantung kepada insulin, osteogenesis imperfecta pada orang dewasa, hyperthyroidism lama yang tidak diubati, hipogonadisme atau menopause pramatang sebelum usia 45, kekurangan zat makanan kronik, atau malabsorpsi dan penyakit hati kronik). Frax juga bergantung kepada negara tempat tinggal anda, umur, jantina dan etnik anda.

Menterjemahkan nilai FRAX

Skor FRAX akan menunjukkan kebarangkalian untuk 10 tahun (dalam %) risiko fraktur osteoporotik utama atau patah tulang pinggul yang kemudiannya diplotkan pada graf ambang Intervensi. Sekiranya X berada di bahagian hijau graf, maka hanya nasihat gaya hidup dan kata-kata semangat diberikan. Sekiranya ia jatuh pada bahagian graf yang berwarna kuning, kami akan menjalankan imbasan DEXA dan jika ia dalam bahagian merah, maka rawatan diperlukan.

Ambang penilaian - Keretakan utama

10 tahun kebarangkalian fraktur osteoporotik utama (%)



Rawat Ukuran BMD Nasihat gaya hidup & meyakinkan

Mengapakah kita memerlukan rawatan?

Pesakit osteoporosis biasanya tidak mempunyai gejala dan tanda pertama penyakit tersebut adalah patah tulang. Masalah-masalah patah tulang adalah:

1. Kos. Menurut garis panduan CPG Malaysia mengenai Pengurusan Osteoporosis 2012, kos langsung rawatan di hospital bagi patah tulang pinggul pada tahun 1997 dianggarkan berjumlah RM22 juta. Jumlah ini tidak boleh dianggap remeh terhadap jumlah beban ekonomi, kerana ia tidak mengambil kira kos yang ditanggung dalam pemulihan dan penjagaan kejururawatan jangka panjang. Oleh itu, dalam populasi yang semakin tua, kos ini akan meningkat sekiranya tiada campur tangan yang sesuai. Kos pada tahun 2018 akan lebih tinggi secara eksponen.

- Fraktur tulang pinggul, jika tidak dirawat, akan membawa kepada jangkitan pernafasan, trombosis urat mendalam, ulser tekanan dan sebagainya kerana pesakit tersebut akan terlantar di katil yang akan memburukkan lagi kehilangan ketumpatan tulang.

- Fraktur tulang belakang dikaitkan dengan morbiditi dan mortaliti yang lebih tinggi.

Rujukan: Lee JK, Khir ASM. Insiden patah tulang pinggul di kalangan rakyat Malaysia melebihi 50 tahun: variasi dalam kumpulan etnik yang berlainan. APLAR J Rheumatol 2007; 10: 300-5

Rawatan osteoporosis

Pengurusan Fraktur Osteoporotik

Matlamat rawatan adalah keupayaan bergerak seawal mungkin dan kembali kepada aktiviti normal. Maka, patah tulang pinggul ini dirawat dengan intervensi pembedahan awal. Patah tulang belakang selalunya stabil dan memerlukan pembedahan jika terdapat tekanan pada saraf tunjang atau akar saraf.

Rawatan farmakologi

- Kalsium dan vitamin D
- Bisphosphonates (alendronate, risedronate, ibandronate, etidronate, zoledronate)
- Hormon teriparatide dan paratiroid
- Raloxifene
- Calcitonin
- Denosumab
- Strontium
- Terapi penggantian hormon (HRT)

Jenis rawatan yang diperlukan sebaik-baiknya dimulakan selepas perbincangan dengan pakar rheumatologi anda. Rawatan biasanya diberikan selama 5 tahun, dan kemudian 'cuti ubat' diberikan. Ini adalah untuk mengelakkan pembentukan tulang yang tidak normal yang sukar dan mungkin menyebabkan patah tulang. Sebelum memulakan apa-apa ubat, anda dinasihatkan supaya melawat doktor gigi anda untuk memastikan tiada gingivitis atau resorpsi gusi. Ini kerana semua ubat-ubatan boleh mempunyai kesan sampingan yang jarang dari "Osteonecrosis" rahang yang biasanya berlaku apabila anda mempunyai kebersihan mulut yang lemah.

Rawatan bukan farmakologi

Diet kalsium dan vitamin D adalah asas pembinaan tulang, diet kalsium dan vitamin D yang mencukupi adalah penting untuk mengekalkan tulang yang kuat dan sihat

Kalsium sumber terbaik adalah

- Produk tenusu seperti susu, keju dan yogurt
- Susu yang diperkaya dengan kalsium daripada soya, beras atau oat
- Ikan yang dimakan dengan tulang (seperti sardin di dalam tin)
- Susu skim dan separuh skim mengandungi lebih banyak kalsium daripada susu penuh lemak
- Sayuran berdaun hijau seperti kubis, kale, brokoli, selada air
- Kekacang dan kacang kuda
- Beberapa jenis kacang, bijian dan buah-buahan kering

Pengambilan kalsium harian yang disyorkan adalah 1000mg. Mungkin terdapat kesan negatif terhadap kesihatan jantung dengan suplemen kalsium tetapi suplemen diperlukan jika pengambilan makanan tidak mencukupi.

Garis Panduan CPG Osteoporosis Malaysia – Pengambilan Kalsium Harian Yang Disyorkan

	Umur	Pengambilan yang disyorkan
Bayi	0 - 6 bulan	300 mg ((susu ibu)) 400 mg (bukan (susu ibu))
	6 - 12 bulan	400 mg
Kanak-kanak	1 - 3	500 mg
	4 - 6	600 mg
	7 - 9	700 mg
Remaja (lelaki & perempuan)	10 - 18	1000 mg
Lelaki	19 - 49	800mg
	> 50 tahun	1000mg
Perempuan	19 - 49	800mg
	> 50 tahun	1000mg
Wanita Hamil Menyusukan Anak	Tiga bulan pertama	1000mg 1000mg

Kandungan kalsium dalam makanan – daripada garis panduan CPG Malaysia

Makanan	Kandungan kalsium (mg)
1 gelas susu berkalsium tinggi (200 ml)	500
1 gelas susu skiml (200ml)	250
1 gelas susu penuh krim (200ml)	220
1 cawan yogurt (150g)	200
1 keping tahu (150g)	200
½ cawan dal kuning (100g)	170
1 cawan bayam (56g)	160
1 cawan aiskrim (156g)	150
1 cawan selada air (sai-yong choy) (50g)	100
1 keping keju cheddar (20g)	100
1 cawan kupang (160g)	100
½ cawan ikan bilis (kering tanpa kepala dan perut) (20g)	100
1 keping ikan sardin dalam tin (40g)	100
1 cawan kacang panggang (240g)	100
1 cawan sawi, cekur manis, kai lan atau pucuk ubi kayu (50 - 80g)	100
1 keping tempe (70)50	
1 cawan air soya (200ml)	40
1 cawan brokoli (95g)	40
10 biji badam (15g)	30

* 1 cawan = 200ml

Vitamin D

Vitamin D membantu dalam penyerapan kalsium ke tulang anda. Tidak kira berapa banyak kalsium yang diambil, ia tidak akan pergi ke tulang jika tahap vitamin D anda tidak mencukupi. Vitamin D3 diperoleh dari matahari. Maka disyorkan supaya anda mendedahkan tangan, kaki dan muka anda (tanpa sunblock) pada matahari pagi selama 20 minit sehari.

Vitamin D juga penting untuk kesihatan otot, keseimbangan, kesejahteraan umum, kulit, kuku, dan rambut. Ia juga mengurangkan kebangkalian untuk mendapat beberapa jenis kanser dan meningkatkan sistem imun. Walaupun Malaysia adalah negara yang mendapat banyak cahaya matahari, ramai orang di sini mempunyai tahap vitamin D yang tidak mencukupi, memandangkan kebanyakan wanita di Asia mengelakkan matahari. Penggunaan make-up dengan blok matahari, memakai pakaian yang meliputi seluruh tubuh dan tinggal di dalam rumah bagi mengelakkan matahari adalah antara beberapa sebab. Semakin kita meningkat usia, kulit kita semakin menipis dan penyerapan vitamin D daripada matahari terjejas.



Senaman

Senaman berat badan (sebarang aktiviti yang melibatkan berjalan atau berlari) adalah lebih baik untuk kekuatan tulang berbanding senaman lain seperti berenang dan berbasikal. Tai chi, khususnya, adalah sangat berkesan dalam mengurangkan risiko jatuh.



Tambahan Vitamin D3 disyorkan untuk:

- Mereka yang tidak berada di luar rumah secukupnya, terutamanya orang tua yang terlantar atau orang yang tinggal di dalam rumah atau di rumah penjagaan.
- Mereka yang memakai pakaian yang meliputi seluruh tubuh dan/atau muka.
- Kumpulan etnik berkulit gelap, termasuk orang-orang daripada latar belakang Afrika, Afrika-Caribbean dan Asia Selatan, kerana orang yang mempunyai pigmentasi kulit gelap kurang dapat menyerap vitamin D melalui kulit akibat kesan perlindungan melanin.

Makanan yang secara semula jadi mengandungi vitamin D termasuk telur dan ikan berminyak, terutama ikan hering, salmon dan makarel. Sesetengah makanan diperkaya dengan vitamin D, seperti marjerin, pelbagai sarapan bijirin dan susu tepung. Pengambilan harian vitamin D3 yang disyorkan adalah antara 400IU kepada 800IU. Bagaimanapun, jika tahap vitamin D anda tidak mencukupi atau kurang, dos vitamin D3 yang lebih tinggi adalah disyorkan.



Others

- Mencegah jatuh.** Pastikan lantai tidak licin terutamanya di bilik mandi, gunakan alat bantuan berjalan, lap tumpahan dengan segera dan pastikan rumah tidak berselerak. Betulkan penglihatan yang lemah dan berhati-hati memakan ubat-ubatan tertentu seperti sedatif.
- Berhenti merokok.**
- Kurangkan pengambilan alkohol** kepada kurang daripada 14 unit seminggu kerana ia boleh menjejaskan pembentukan tulang baru.

骨质疏松症

近来与朋友们一起聊天时，经常会听到有人谈及“骨质疏松”，所以我们决定对这个课题做进一步的探讨，并得到风湿专科顾问医师兼内科医师**拉玛妮医生**从她忙碌的日程中，抽空与我们分享她的专长。

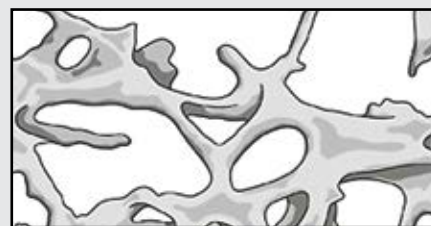


骨骼是一个会持续自我更新的活组织。它分成两个部分，一为称作皮质骨的硬外部，以及称为小梁的海绵骨软内部。假如骨骼只是单一的硬结构，那它就会更容易折裂。

骨质疏松症对骨质的影响



正常



骨质疏松

峰值骨量

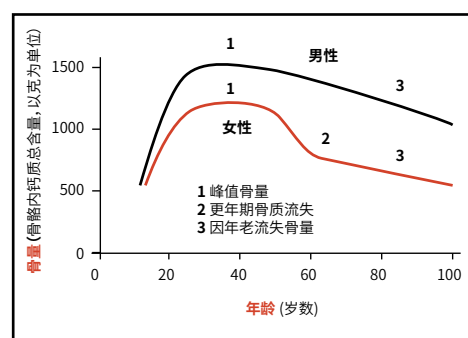
骨骼经常自行重新造骨，它通过吸收钙质来制造新骨质，再经由血液重新吸收骨内钙质来去除旧骨质。通过制造新骨和去除旧骨两者间的互相平衡，骨骼得以维持健康。然而，在生命不同阶段里，造新骨和除旧骨之间的速度会有所改变。骨骼的形成主要是靠钙质和维生素D。

在童年和青春期，新骨骼的形成速度很快。这个条件使骨骼长大且长壮（密度很高），骨骼会在我们接近三十岁时达到峰值骨量，三十岁之后造新骨和除旧骨的速度就相同了。成人骨骼在七至十年内就完成全面换新。

从四十岁开始，骨骼去除旧骨的速度比制造新骨快，以致骨骼密度降低。当骨骼因为骨质流失以致骨折几率提高时，那就是所谓的“骨质疏松”。与男性比较，女性出现骨质疏松的几率是男性的四倍，这是因为女性在更年期期间会因为失去雌激素导致血液从骨骼里吸收钙质的速度变快。男性因为峰值骨量比女性高，所以即使四十岁以后造新骨的速度慢了下来，男性还是较少出现骨质疏松的情形。

骨质疏松的诊断，一般是通过DEXA扫描（双能量X光骨密度仪）来测算骨骼密度和T-分数。

图表显示男性和女性的典型总骨量



图表来自英国关节炎研究中心

骨质疏松的诊断

一般是通过DEXA扫描(双能量X光骨密度仪)来测算骨骼密度和T-分数。

正常	骨密度 (BMD) $\geq -1.0SD$ 的年轻成人参考范围 (T-score ≥ -1.0)
骨质减少	骨密度 (BMD) $-1.0SD$ 和 $-2.5SD$ 骨密度 (BMD) 低于年轻人的平均水平 ($-1.0 > T\text{-score} > -2.5$)
骨质疏松	骨密度 (BMD) $\leq -2.5SD$ 低于年轻人的平均水平 (T-score ≤ -2.5)
严重/已建立的骨质疏松症	骨密度 (BMD) $\leq -2.5SD$ 的年轻成年人意味着存在或更多的脆性骨折

图片由国际骨质疏松症基金会提供

会引起骨质疏松的风险因素

类固醇	因为治疗炎性关节炎以及连接组织疾病而服用超过三个月。
缺少雌激素	四十五岁之前就过早开始更年期、切除卵巢。
载重运动做得不够多	运动增进骨骼健康。 游泳并非载重运动。 承载着本身的重量走路是一种载重运动。 做运动也可增强肌肉力量,防止跌倒。 运动过量会压抑生理期,导致骨骼变弱。
抽烟	烟草对骨骼有毒害,因为它会降低睾丸素水平导致骨骼变弱。
节食	节食导致钙质和维生素D不足,制造骨骼不能缺少它们。 厌食症、乳糜泻以及体重不足也加快骨质流失。
酒精	酒精过量会减缓新骨生成。
家族或种族遗传骨质疏松	遗传因素影响了骨骼发育。

FRAX 分数

并非每个人需要做DEXA扫描检查。世界卫生组织制定了一个叫做FRAX计算骨质疏松风险的方法,以推算是否需要做DEXA扫描和做骨质疏松治疗。FRAX算法把是否有经历轻度骨折、是否有服用类固醇三个月以上、是否在四十五岁之前就过早开始更年期、母亲是否有髌骨折、身体质量指数(BMI)是否低于十九、是否患有其他会影响骨质的疾病(例如类风湿性关节炎)等因素,都归入计算考虑范围内。

Questionnaire:

1. Age (between 40-90 years) or Date of birth:
Age: Y: M: D:

2. Sex: ☐ Male ☐ Female

3. Weight (kg):

4. Height (cm):

5. Previous fracture: ☐ No ☐ Yes

6. Parent fractured hip: ☐ No ☐ Yes

7. Current smoking: ☐ No ☐ Yes

8. Glucocorticoids: ☐ No ☐ Yes

9. Rheumatoid arthritis: ☐ No ☐ Yes

10. Secondary osteoporosis: ☐ No ☐ Yes

11. Alcohol 3 more units per day: ☐ No ☐ Yes

12. Femoral neck BMD:

FRAX

The ten year probability of fracture (%)

without BMD

Major osteoporotic	<input type="text"/>
Hip fracture	<input type="text"/>

图片来自国际骨质疏松症基金会

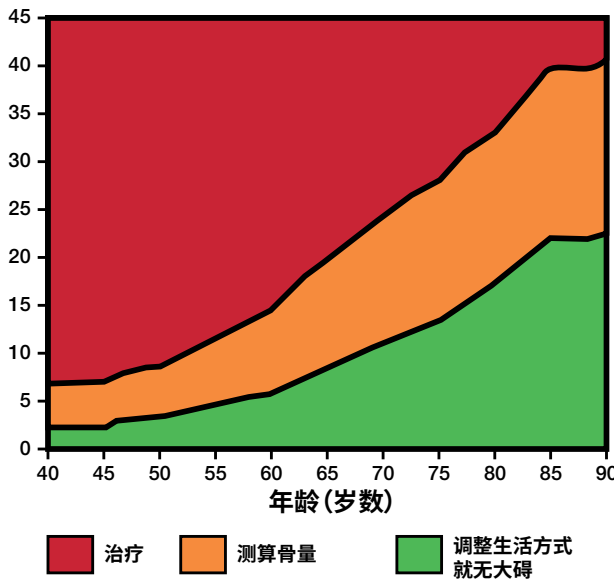
继发性骨质疏松症(指那些与骨质疏松症关系密切的疾病,例如甲型依赖胰岛素糖尿病、成人成骨不全症、没治疗的长期甲状腺亢奋、性腺机能减退或四十五岁前就过早开始更年期、慢性营养不良或吸收不良以及慢性肝病)。FRAX 也因所在国、年龄、性别和种族而异。

解读FRAX分数

FRAX 分数显示十年里因骨质疏松导致的严重骨折或髌骨折风险的几率,它以一个图表来表达其几率(百分比)。如果X标志落在绿色范围内,有关者只需调整生活方式就应该不会有碍。如果落在黄色区域,我们会进行DEXA扫描做检查,而落在红色区域就需要进行治疗了。

评估门槛 - 严重骨折

十年间发生严重骨折的可能机率(百分比)



为何需要进行治疗?

骨质疏松患者通常都是没有症状的,若患上第一件可能会发生的事情就是骨折。骨折带来的问题如下:

- 费用。根据2012年大马骨质疏松管理临床实践指南说明,1997年因为髌骨折直接住院治疗的费用估计约达两千两百万令吉。这个数目严重低估了整个经济负担,因为它尚未把复健和长期护理开销计算在内。所以,在人口老龄化的社会里如果有关方面没有采取适当的行动,这个开销将会逐年增加。2018年的开销成本一定比以上数目高出许多倍。
- 髌骨折如果不加以治疗,会引起呼吸道感染、深静脉血栓形成、压迫性溃疡等等,而且加上病人卧床不起,骨质也会因此进一步流失。
- 如果是脊柱骨折,那么发病率和死亡率就更高。

参考: Lee JK, Khir ASM. The incidence of hip fracture in Malaysians above 50 years of age: variation in different ethnic groups. APLAR J Rheumatol 2007;10:300-5

骨质疏松的治疗

骨质疏松骨折的管理

治疗的目的是要让病人早日恢复行动能力,回到日常活动里。凡碰上髌骨折医生都会及早手术治疗。脊柱骨折大部分是稳定的,若脊髓或神经根受压迫时就需要开刀处理。



药物治疗

1. 钙质及维生素D
2. 双膦酸盐 (阿仑膦酸盐、利塞膦酸盐、伊班膦酸盐、依替膦酸盐、唑来膦酸盐)
3. 特立帕肽和甲状旁腺激素
4. 雷洛昔芬
5. 降钙素
6. 狄诺塞麦
7. 锶
8. 激素替代疗法 (HRT)

选择怎样的治疗最好是先跟风湿专科医师讨论过之后才决定。治疗期一般是五年,接着会放一段药物假期。放假的目的是要避免骨骼出现偏硬的异常结构,以致发生骨折。开始服用以上任何药物之前,最好先找牙医做口腔检查,确定没有牙龈炎或牙龈吸收的情形才好。这是因为在口腔卫生不好的情况下,所有药物都会引起一个稀有的副作用,即颌骨坏死。

大马骨质疏松临床实践指南

– 钙质每日建议摄取量

	年龄	建议摄取量
婴孩	零至六个月	三百毫克 (哺乳) 四百毫克 (没哺乳)
	六至十二个月	四百毫克
儿童	一至三	五百毫克
	四至五	六百毫克
	七至九	七百毫克
青春期 (男孩与女孩)	十至十八	一千毫克
男性	十九至四十九	八百毫克
	五十以上	一千毫克
女性	十九至四十九	八百毫克
	五十以上	一千毫克
妊娠 哺乳	后面三个月	一千毫克
		一千毫克



非药物治疗

饮食 – 骨骼的形成主要靠钙质和维生素D, 饮食中有足够的钙和维生素D, 对维持骨骼强壮及健康很重要。

钙质: 其最佳来源是

- a. 乳制品如牛奶、乳酪和优格
- b. 富加钙质, 采用黄豆、米或燕麦制成的奶饮品
- c. 可以连鱼骨一起吃下的鱼类食品 (例如罐头沙丁鱼)
- d. 脱脂或半脱脂奶比全脂奶含有更高的钙质成分
- e. 绿叶蔬菜如包菜、甘蓝菜、西兰花、西洋菜
- f. 豆类及鹰嘴豆
- g. 某些坚果、种子和干果

钙的每日建议摄取量是一千毫克。钙辅助品或许会对心脏带来不良副作用, 然而如果从饮食中摄取量不够的话, 就需要服用钙辅助品。

食物中钙质含量

– 大马临床实践指南提供

食物	钙含量(毫克)
一杯高钙奶 (200毫升)	500
一杯脱脂奶 (200毫升)	250
一杯全脂奶 (200毫升)	220
一杯优格 (150克)	200
一块豆腐 (150克)	200
半杯黄扁豆 (100克)	170
一杯菠菜 (56克)	160
一杯冰淇淋 (156克)	150
一杯西洋菜 (56克)	100
一片切达起司 (20克)	100
一杯青口贝 (160克)	100
半杯江鱼仔 (去头及内脏晒干) (20克)	100
一块罐头沙丁鱼 (40克)	100
一杯罐头黄豆 (240克)	100
一杯菜心、蕨菜、芥兰或木薯嫩叶 (50-80克)	100
一块发酵黄豆 (70克)	50
一杯豆浆 (200毫升)	40
一杯西兰花 (95克)	40
十颗杏仁 (15克)	30

*一杯 = 200毫升

维生素D

维生素D帮助骨骼吸收钙质。不管你吃下多少钙质，若体内维生素D不足，钙质是不会进入骨骼的。维生素D3可以从阳光里获得，建议每天早晨让手脚和脸部（不涂防晒霜）晒二十分钟太阳。

维生素D对肌肉健康、身体平衡、整体健康、皮肤、指甲和头发也很重要。它也会减少罹患某些癌症的风险，并增强免疫力。虽然马来西亚是一个阳光充足的国家，但是维生素D不足的人却很多，原因是多数亚洲女性都不喜欢晒太阳。日常使用防晒化妆品、衣服穿着遮盖全身并躲在室内避开阳光是其中一些原因。随着年龄的增长，皮肤会变薄，这会影响从阳光里吸取维生素D的能力。



建议以下人士服用维生素D3：

- 在户外停留的时间不够多者，尤其是长期卧床的老年人，或足不出户者，或安老院院民。
- 衣服穿着遮盖全身及/或遮脸者。
- 皮肤黝黑的人种，包括非洲人、加勒比黑人以及南亚人，因为黑色皮肤有黑色素的防晒保护作用，所以比较不会吸收维生素D。

含有天然维生素D的食物包括蛋及含油脂的鱼类，尤其是鲱鱼、三文鱼和鲭鱼。有些食物内富加了维生素D，例如面包油、各类早餐谷类以及奶粉。维生素D3的每日建议摄取量是四百国际单位至八百国际单位之间。然而，若维生素D水平不足或缺少的，就建议摄取更高剂量的维生素D3。

运动

在增强骨骼力量方面，载重运动（任何关系到行走或跑步的活动）的效果比不载重运动（游泳和踏脚车）来得好，尤其是太极，它可以有效降低跌倒的风险。



其他

- 防止跌倒。**确保地板不滑溜，尤其是浴室里。走路要用助行器、地板一旦溅湿了就马上擦干、家居环境要保持整齐不凌乱、如果视力不佳就得戴眼镜、服用某些药物要小心，尤其是镇静剂。
- 不再抽烟。**
- 减少喝酒。**把每周饮酒量降低到十四单位以下，因为酒精会妨碍新骨形成。

Diet has no role in ARTHRITIS MANAGEMENT



Does diet have a role in arthritis management? Well, according to research, diet does play a role in the management of gout, but establishing good dietary habits are important across the board for healthy living.



“One should maintain a balance between diet and physical activity to prevent getting overweight”. And that is by far the best thing we can do for ourselves.

Dr. Amir Azlan Zain
Consultant Rheumatologist

In an article, “Gout diet: What’s allowed, what’s not”, published by Mayo Clinic in 2015, it said that the purpose of a gout diet is to address all factors related to disease risk and management. Above all, the goals are a healthy weight and healthy eating — a message that applies to lowering the risk of many diseases.

What is gout?

Gout is a painful form of arthritis which occurs when high levels of uric acid in the blood cause crystals to form and accumulate around a joint. Uric acid is produced when the body breaks down a chemical called purine. Purine occurs naturally in your body, but it’s also found in certain foods.

What’s allowed, what’s not

WEIGHT LOSS. Being overweight increases the risk of developing gout, and losing weight lowers the risk of gout. Research suggests that reducing the number of calories and losing weight — even without a purine-restricted diet — lowers uric acid levels and reduces the number of gout attacks. Losing weight also lessens the overall stress on joints.

COMPLEX CARBOHYDRATES. Eat more fruits, vegetables and whole grains, which provide complex carbohydrates. Avoid foods such as white bread, cakes, candy, sugar-sweetened beverages and products with high-fructose corn syrup.

WATER. Keep yourself hydrated by drinking water. An increase in water consumption has been linked to fewer gout attacks. Aim for eight to 16 glasses of fluids a day with at least half of that as water.

FATS. Cut back on saturated fats from red meats, fatty poultry and high-fat dairy products.

PROTEINS. Limit daily proteins from lean meat, fish and poultry to 4 to 6 ounces (113 to 170 grams). Add protein to your diet with low-fat or fat-free dairy products, such as low-fat yogurt or skim milk, which are associated with reduced uric acid levels.

Recommendations for specific foods or supplements include the following:

- **HIGH-PURINE VEGETABLES.** Studies have shown that vegetables high in purines do not increase the risk of gout or recurring gout attacks. A healthy diet based on lots of fruits and vegetables can include high-purine vegetables, such as asparagus, spinach, peas, cauliflower or mushrooms. You can also eat beans or lentils, which are moderately high in purines but are also a good source of protein.
- **ORGAN AND GLANDULAR MEATS.** Avoid meats such as liver, kidney and sweetbreads, which have high purine levels and contribute to high blood levels of uric acid.
- **SELECTED SEAFOOD.** Avoid the following types of seafood, which are higher in purines than others: anchovies, herring, sardines, mussels, scallops, trout, haddock, mackerel and tuna.
- **ALCOHOL.** The metabolism of alcohol in your body is thought to increase uric acid production, and alcohol contributes to dehydration. Beer is associated with an increased risk of gout and recurring attacks, as are distilled liquors to some extent.
- **VITAMIN C.** May help lower uric acid levels. Talk to your doctor about whether a 500-milligram vitamin C supplement fits into your diet and medication plan.
- **COFFEE.** Some research suggests that moderate coffee consumption may be associated with a reduced risk of gout, particularly with regular caffeinated coffee. Talk to your doctor about how much coffee is right for you.
- **CHERRIES.** There is some evidence that eating cherries is associated with a reduced risk of gout attacks.

Peranan diet dalam PENGURUSAN ARTRITIS

Adakah diet mempunyai peranan dalam pengurusan artritis? Menurut kajian, diet memainkan peranan dalam pengurusan gout, tetapi mengamalkan tabiat pemakanan yang baik adalah penting secara keseluruhannya untuk kehidupan yang sihat.

Dalam sebuah artikel, "Gout diet: What's allowed, what's not", yang diterbitkan oleh Mayo Clinic pada tahun 2015, mengatakan bahawa tujuan diet gout adalah untuk menangani semua faktor yang berkaitan dengan risiko penyakit dan pengurusan. Secara umumnya, matlamat diet tersebut adalah untuk mencapai berat badan yang sihat serta pemakanan sihat - mesej yang digunakan untuk mengurangkan risiko banyak penyakit.

Apakah itu gout?

Gout adalah artritis yang menyakitkan yang berlaku apabila tahap asid urik dalam darah menyebabkan kristal terbentuk dan berkumpul di sekitar sendi. Asid urik dihasilkan apabila badan memecahkan sejenis bahan kimia yang dipanggil purin. Purin berlaku secara semula jadi di dalam badan, tetapi purin juga terdapat dalam makanan tertentu.

Apa yang dibenarkan, apa yang tidak

MENGURANGKAN BERAT BADAN. Berat badan berlebihan meningkatkan risiko gout, maka mengurangkan berat badan akan menurunkan risikonya. Kajian menunjukkan bahawa mengurangkan jumlah kalori dan mengurangkan berat badan – walaupun bukan dengan diet yang mengehadkan purin, dapat menurunkan paras asid urik dan mengurangkan kekerapan serangan gout. Penurunan berat badan juga mengurangkan tekanan keseluruhan pada sendi.

KARBOHIDRAT KOMPLEKS. Makan lebih banyak buah-buahan, sayur-sayuran dan bijirin penuh yang membekalkan karbohidrat kompleks. Elakkan makanan seperti roti putih, kek, gula-gula, minuman manis dan produk yang mengandungi sirap jagung fruktosa tinggi.

AIR. Kekal terhidrat dengan minum air. Pertambahan meminum air dikaitkan dengan serangan gout yang berkurangan sedikit. Sasarkan untuk mengambil lapan hingga 16 gelas cecair sehari dengan sekurang-kurangnya separuh daripada itu adalah air.

LEMAK. Kurangkan lemak tepu dari daging merah, ayam berlemak dan produk tenusu tinggi lemak.

PROTEIN. Hadkan pengambilan protein harian dari daging tanpa lemak, ikan dan ayam kepada 4 hingga 6 auns sahaja (113 hingga 170 gram). Tambah protein pada diet anda dengan produk tenusu rendah lemak atau bebas lemak, seperti yogurt rendah lemak atau susu skim, yang dikaitkan dengan turunnya kadar asid urik.

"Seseorang itu harus mengekalkan keseimbangan antara diet dan aktiviti fizikal untuk mencegah kelebihan berat badan". Dan itu merupakan perkara terbaik yang boleh kita lakukan untuk diri kita sendiri.

Dr. Amir Azlan Zain

Pakar Perunding Reumatologi berkata,

Cadangan untuk makanan atau suplemen tertentu termasuk yang berikut:

- **SAYURAN TINGGI PURIN.** Kajian menunjukkan bahawa sayur-sayuran yang mempunyai kandungan purin yang tinggi tidak meningkatkan risiko gout atau serangan gout berulang. Diet yang sihat adalah yang berasaskan banyak buah-buahan dan sayuran, termasuk sayur-sayuran yang mengandungi purin yang tinggi, seperti asparagus, bayam, kacang pis, kembang kol atau cendawan. Anda juga boleh makan kacang atau dhal, yang mengandungi purin sederhana tinggi tetapi juga merupakan sumber protein yang baik.
- **DAGING ORGAN DAN KELENJAR.** Elakkan daging seperti hati, buah pinggang dan pelbagai jenis organ dalaman, yang mempunyai tahap purin yang tinggi dan menyumbang kepada paras asid urik dalam darah yang tinggi.
- **MAKANAN LAUT TERPILIH.** Elakkan jenis makanan laut yang berikut, yang lebih tinggi kandungan purinnya berbanding yang lain: ikan bilis, ikan hering, ikan sardin, kupang, kerang, trout, haddock, kembong dan ikan tuna.
- **ALKOHOL.** Ada yang berpendapat bahawa metabolisme alkohol di dalam badan akan meningkatkan pengeluaran asid urik, dan alkohol menyumbang kepada dehidrasi. Bir dikaitkan dengan peningkatan risiko gout dan serangan berulang, sama seperti arak disuling sehingga tahap tertentu.
- **VITAMIN C.** Vitamin C dapat membantu mengurangkan tahap asid urik. Berbincanglah dengan doktor anda tentang sama ada suplemen vitamin 500-miligram sesuai dengan diet dan pelan ubat anda.
- **KOPI.** Sesetengah kajian mencadangkan bahawa pengambilan kopi secara sederhana boleh dikaitkan dengan penurunan risiko gout, terutamanya dengan kopi berkafeina biasa. Berbincanglah dengan doktor anda tentang berapa banyak kopi yang sesuai untuk anda.
- **CERI.** Terdapat bukti yang menunjukkan bahawa memakan ceri dikaitkan dengan pengurangan risiko serangan gout.

到底饮食跟关节炎管理会有关系吗？根据研究显示，饮食在痛风的管理上确实会带来一些作用。然而，良好的饮食习惯无论如何都是健康生活里重要的一环。

“我们应该在饮食及体能活动之间达到平衡，避免身体超重。”这正是我们能够为自己健康所做的最好努力。

阿米尔医生
风湿专科顾问医师



饮食在关节炎管理上毫无作用

美国梅奥医院2015年发布的一篇标题为《痛风饮食：可吃与不可吃》的文章提到，痛风饮食的目的是要将凡是与疾病风险及管理有关的因素，都来个处理并解决，其首要目标是要达到健康体重和健康饮食——这是针对降低许多疾病风险的一项信息。

痛风是什么？

痛风是一种疼痛型的关节炎。当血液里尿酸水平偏高时，尿酸盐晶体就会形成，并在关节处累积且引发疼痛。人体在分解一种叫做嘌呤的化学物时，会产生尿酸。嘌呤会自然出现在人体内，某些食物里也含有嘌呤。

哪些可吃，哪些不许

减重 身体超重会令患痛风的风险提高，减重则能够降低这个风险。研究建议，减少饮食热量并减轻体重——即使没有实行嘌呤限制饮食——会降低尿酸水平，从而减少痛风发生的次数。减轻体重也降低身体关节所承受的整体压力。

复合碳水化合物 多吃水果、蔬菜和全谷类，它们能够为人体提供复合碳水化合物。平时要尽量少吃白面包、蛋糕、糖果、含糖饮料以及高含糖玉米糖浆的食品。

水分 平时要多喝水，让体内水分充足。研究发现，痛风的次数减少与身体含水量增加有关。每天要喝上八至十六杯液体，其中至少有一半必需是水。

脂肪 减少摄入来自红肉、肥腻家禽肉以及高脂奶类食品的饱和脂肪。

蛋白质 把日常来自瘦肉、鱼类和家禽类的蛋白质限制在四至六安士（一百十三至一百七十克）之间。你可以吃一些低脂或无脂奶类食品如低脂优格或脱脂奶，来增加饮食蛋白质。这类奶食品有助降低尿酸。

建议食用的特定食物或营养品包括以下种类：

- **高嘌呤蔬菜** 研究已经显示高嘌呤蔬菜不会增加痛风风险，也不会使痛风复发。一份富含水果及蔬菜的健康饮食，可以包括高嘌呤蔬菜如芦笋、菠菜、豌豆、椰菜花或菇类。也可以吃一些豆类或小扁豆，它们的嘌呤含量虽然有一点点高，不过却也是很好的蛋白质来源。
- **动物内脏及腺体肉** 饮食中避免有肝脏、肾脏和胰脏，这些都是高嘌呤食物，会使血液里的尿酸飙升。
- **特定海鲜食品** 饮食里避免以下几种海鲜食品，因为它们的嘌呤含量都比其他海鲜高：江鱼仔、鲱鱼、沙丁鱼、青口贝、扇贝、鳕鱼、黑线鳕、鲑鱼和鲔鱼。
- **酒精** 酒精在人体内代谢时被认为会导致尿酸制造量增加，同时酒精也使身体脱水。啤酒与提高痛风风险，并使它复发是相关的。蒸馏类烈酒在某个程度上也会引起同样的不良后果。
- **维生素C** 维生素C有助降低尿酸水平。请向医生咨询，看看是否适合在饮食及药疗计划中加入五百毫克维生素C。
- **咖啡** 一些研究建议适量饮用咖啡或许可以降低痛风风险，尤其是喝一般含咖啡因的咖啡。请向医生咨询，看看自己适合饮用多少咖啡。
- **樱桃** 有证据显示，吃樱桃与减少痛风是相关的。

When your doctor is
not just around the corner

Introducing the AFM TRAVELLING FUND

for kids

It is without a doubt that all of us as parents search long and hard for the right doctor for our kids when they are sick. But what happens when that doctor is miles and miles away, and sometimes across the ocean even?



Dr. Tang Swee Ping
Consultant Pediatric Rheumatologist

If you are an adult arthritis sufferer, you may be lucky and have a good rheumatologist in your neighbourhood to help you manage your arthritis. You may not have to travel too far to receive good treatment. However, children with arthritis and other autoimmune diseases are simply not that lucky. This is because paediatric rheumatologists or specialist doctors who look after children with such diseases are a rare breed. Currently there are only 4 paediatric rheumatologists in the whole of Malaysia, and all are located within Klang Valley. So if you live outside Klang Valley, having to see one of these doctors may mean the start of a long, arduous and financially burdensome journey.

Selayang Hospital is the only public hospital in the country which offers paediatric rheumatology services to the whole nation. Patients from all over the country, including Sabah and Sarawak, are referred there for further management, if felt indicated by their local paediatricians. This means that if your child has arthritis and requires the expertise of a paediatric rheumatologist, you will have to travel from your home to Selayang Hospital.

For some, it may be a simple car trip 30-40 minutes away. But for many, it may mean an overnight bus trip or long train journey to Kuala Lumpur from their hometown, followed by a trip by taxi to the hospital. Some might even need to take a flight, especially if they come from East Malaysia. Many parents find this journey cumbersome and close to impossible, especially if they are relying on public transportation. It is not merely the difficulties in bringing a child who is sick and may have difficulty in ambulating but also the financial burden due to the increasing cost of public transportation. Many patients default follow-up appointments simply because they just do not have the financial means.

PG (name changed) is a 12-year old girl with Juvenile Idiopathic Arthritis whose disease was fairly controlled on multiple medications from the hospital. She had a severe flare of her arthritis as she has missed her follow-up appointment and ran out of medications and for 3 weeks she suffered severe pain



and could not walk or attend school. The reason was simply because the family did not have the funds to bring her to hospital. Although this family just lived in Rawang, which is not too far from Selayang if you owned a car, coming to hospital for them meant changing 4 buses and walking long distances between bus stops which was not an option for an arthritis sufferer. The other option was to take a taxi and they did not have enough money for a round trip. Her mother is the sole breadwinner with 5 mouths to feed and school, and works from 8am to 9pm at a factory trying to make ends meet. So how can we help PG?

NA is a patient from Malacca who has severe eye inflammation. She was given an appointment in a week's time for review after instituting treatment. She had called her doctor to ask for postponement in her appointment as she didn't even have enough money for her mother and her to travel to KL. As her eye inflammation was critical, AFM stepped in. With just RM100, AFM enabled this patient to come for her review and helped prevent blindness.

These patients have benefitted from the 'AFM Travelling Fund' for children with arthritis and other autoimmune diseases which was introduced in 2016. Over the last 2 years, nearly 50 children have benefited from this fund, which promises to help them make that important journey to see their doctor. AFM has helped these patients attend their hospital appointments and have access to expert medical care by giving them small amounts of financial support to reduce their travelling expenses.

We appeal for donations to help patients like PG and NA, and others who come from as far as Perlis or Kelantan in the north or Johor in the south. These children and their families have a real need but their visit to the doctor may forever remain a dream. You can make a difference today to a child's life, to his or her future.

**Please contact AFM if you would like to make a donation.
Every small amount counts. Help us to help them.**

Sekiranya doktor berada jauh dari pesakit

Memperkenalkan

DANA PERJALANAN AFM

Untuk Kanak-kanak

Memang tidak dapat dinafikan bahawa ibu bapa akan berusaha sedaya upaya mencari doktor yang sesuai apabila anak mereka jatuh sakit. Tetapi bagaimanakah jika doktor tersebut berada jauh sehingga beribu-ribu batu?

Dr. Tang Swee Ping,
Consultant Pediatric Rheumatologist

Jika anda penghidap artritis dewasa, anda mungkin bernasib baik pakar reumatologi yang sesuai ada di kawasan berdekatan untuk menguruskan artritis anda. Anda mungkin tidak perlu pergi jauh untuk mendapatkan rawatan. Walau bagaimanapun, kanak-kanak yang menghidap artritis dan penyakit auto imun lain mungkin tidak bernasib baik seperti anda. Ini kerana bilangan pakar reumatologi pediatrik atau doktor pakar lain yang merawat kanak-kanak dengan penyakit ini adalah sangat kurang. Pada masa ini hanya terdapat 4 orang pakar reumatologi pediatrik di seluruh Malaysia dan semuanya berada di Lembah Kelang. Jika anda tinggal di luar Lembah Kelang, anda mungkin perlu melakukan perjalanan jauh serta membebankan kewangan untuk berjumpa dengan mana-aman doktor ini.

Hospital Selayang merupakan satu-satunya hospital awam di negara ini yang menawarkan perkhidmatan reumatologi pediatrik untuk Malaysia. Para pesakit dari seluruh negara termasuk Sabah dan Sarawak dirujuk ke hospital ini untuk pengurusan lanjut jika didapati perlu oleh pakar pediatrik di tempat masing-masing. Ini bermakna jika anak anda menghidap artritis dan memerlukan rawatan pakar, anda perlu membuat perjalanan jauh dari rumah anda ke Hospital Selayang.

Bagi sesetengah orang, ini mungkin bermakna perjalanan kereta selama 30-40 minit. Tetapi bagi kebanyakan orang, mereka perlu menaiki bas atau kereta api untuk ke Kuala Lumpur diikuti dengan perjalanan menaiki teksi ke hospital. Ada juga yang perlu menaiki pesawat terutama yang datang dari Sabah atau Sarawak. Ramai ibu bapa yang merasakan perjalanan ini sangat rumit, terutama jika mereka perlu bergantung pada pengangkutan awam. Mereka bukan sahaja menghadapi cabaran membawa anak yang sakit ke hospital tetapi juga menghadapi masalah kewangan disebabkan kenaikan kos pengangkutan awam. Kebanyakan pesakit tidak dapat menunaikan temu janji susulan kerana mereka tidak cukup wang.

PG (bukan nama sebenar) seorang kanak-kanak perempuan berusia 12 tahun penghidap Arthritis Idiopatik Juvenil dapat mengawal keadaannya menggunakan pelbagai ubat dari hospital. Adik ini telah mengalami radang artritis yang teruk kerana terlepas temu janji susulan dan kehabisan ubat. Dia mengalami rasa sakit yang amat sangat dan tidak dapat berjalan atau hadir ke sekolah. Puncanya adalah kerana keluarga dia tidak ada cukup wang untuk membawa PG ke hospital. Walaupun mereka tinggal di Rawang, yang sebenarnya tidak jauh dari Selayang jika anda memiliki kereta, namun untuk ke hospital mereka perlu menaiki 4 buah bas silih berganti dan berjalan jauh antara perhentian bas. Ini tidak boleh dilakukan oleh penghidap artritis. Pilihan lain adalah menaiki teksi tetapi mereka tidak ada wang yang cukup untuk perjalanan pergi balik. Ibu beliau sahaja yang bekerja dengan 5 orang anak yang perlu ditanggung termasuk persekolahan. Ibunya bekerja kilang dari 8 pagi hingga 9 malam untuk mencari rezeki. Jadi bagaimanakah kita boleh membantu PG?

NA merupakan pesakit dari Melaka yang mengalami radang mata yang teruk. Dia mendapat temu janji dalam masa seminggu untuk pemeriksaan selepas rawatan. NA telah menghubungi doktor untuk meminta penangguhan temu janji kerana dia tidak cukup wang untuk datang ke KL bersama ibunya. Apabila radang matanya semakin teruk, AFM telah masuk campur. Dengan bantuan sebanyak RM100 sahaja, AFM telah membolehkan pesakit ini datang ke hospital untuk pemeriksaan dan membantu mencegah pesakit daripada menjadi buta.

Para pesakit ini telah mendapat manfaat daripada 'Dana Perjalanan AFM' untuk kanak-kanak yang menghidap artritis dan penyakit auto imun lain yang telah diperkenalkan pada 2016. Sepanjang 2 tahun yang lalu, hampir 50 orang kanak-kanak telah mendapat manfaat daripada dana ini yang menjanjikan bantuan perjalanan yang penting untuk bertemu dengan doktor. AFM telah membantu para pesakit hadir temu janji hospital untuk menerima rawatan pakar perubatan dengan menyediakan sejumlah kecil bantuan kewangan bagi mengurangkan perbelanjaan perjalanan mereka.

Kami memohon derma untuk membantu pesakit kecil seperti PG dan NA serta pesakit lain yang datang jauh dari Perlis atau Kelantan di utara atau Johor di selatan. Kanak-kanak dan keluarga mereka berada dalam keadaan yang benar-benar memerlukan tetapi pertemuan dengan doktor mungkin menjadi sekadar impian yang tidak dapat ditunaikan. Anda boleh membawa perubahan kepada kehidupan kanak-kanak serta masa depan mereka hari ini.

Sila hubungi AFM jika anda mahu memberi sumbangan. Setiap jumlah walaupun kecil tetap akan membawa perubahan. Bantulah kami untuk membantu mereka.

你需要的医生不在邻近地区 向你介绍专为儿童而设的 **AFM旅费基金**

如果你是成人关节炎患者，或许你附近就有一位不错的风湿专科医师为你管理你的关节炎，你无需为了就医而跋山涉水。然而，患上关节炎以及其他自身免疫疾病的儿童们就没有这么幸运了，原因是国内的小儿风湿专科医师真的是没几个。目前，马来西亚国内的小儿风湿专科医师只有区区四位；更甚的是，他们全都在巴生谷一带。因此，居住在巴生谷以外地区者，一定要经过一轮舟车劳顿才能见到这其中一位的医生，更勿论在经济上的负担了。

士拉央医院是国内唯一一间设有小儿风湿专科医疗服务的公家医院。全马各地（包括沙巴和砂拉越）的小儿专科医师，只要是发现到有可能的症状，就会把这些患病的孩子转介到这里来接受进一步的医疗。也就是说，万一你的小孩患上了关节炎，而他又需要一个小儿风湿专科医生的照料，那么你就必需出门一趟，来到士拉央医院找医生了。

对某些人来说，那只不过是三、四十分钟的车程而已。但是对于绝大部分的人而言，很可能就是得搭上一晚的长途巴士或火车，从家乡到吉隆坡，然后再转搭一趟的士到医院。有些甚至需要搭飞机，尤其是住在东马的人士。许多家长会因此觉得这很不方便，甚至接近不可能，尤其是只有能力乘搭公共交通者。带着一个患病小孩出远门不但在移动上会面对难题，公交日益高涨的交通费用也是一个经济负担。许多家长就因为经济问题而索性不带孩子去复诊。

PG（假名）今年十二岁，患有小儿先天性关节炎，在医生开方服用多种药物下，病情向来也控制得不错。她就是因为没有回医院复诊以致药物中断，没有再吃药。结果身体疼痛无比，折腾了三个星期，不能走路，也无法上学。原因就是家人没有钱带她回医院复诊。她和家人住在离士拉央并不远的万挠，拥车的话这段路并不遥远。但是，这路程对她而言则是换四趟巴士再加步行一大段路，从一个车站到另一个车站去换巴士。这并不是一个关节炎患者所能应付的事。另一个选择是搭的士，但是他们没有钱付来回医院的车费。

当孩子生病的时候，为人父母者都会忙着为孩子找寻适当的医生做治疗。可是，如果那位医生是在离家很遥远的地方，有时甚至是远在必需漂洋过海才能到达的地方，怎么办呢？

邓瑞冰医生
小儿风湿专科顾问医师



PG的一家五口就单靠她母亲一人在工厂打工，从早上八点工作到晚上九点挣钱养家活口，以及送孩子上学。我们怎样才能帮到PG呢？

来自马六甲的NA眼睛严重发炎，她就医之后医生要她一个星期后回医院复诊。她致电医生，要求把复诊的日子延后。原因是因为没钱，她和妈妈无法到吉隆坡见医生。由于她的眼睛情况严重，大马关节炎基金会（AFM）决定伸出援手，拿出了一百令吉，她因此可以前来复诊，避免失明。

这项专为患上关节炎以及其他自身免疫疾病的孩童而设的“AFM旅费基金”于2016年设立，以上患者都是此基金的受惠者。过去两年里，有接近五十位孩童受惠，此基金答应协助他们回来见医生做复诊。为数不大的经济支援，足以帮助他们减轻来回旅程负担，让他们有机会得到专科医师的治疗。

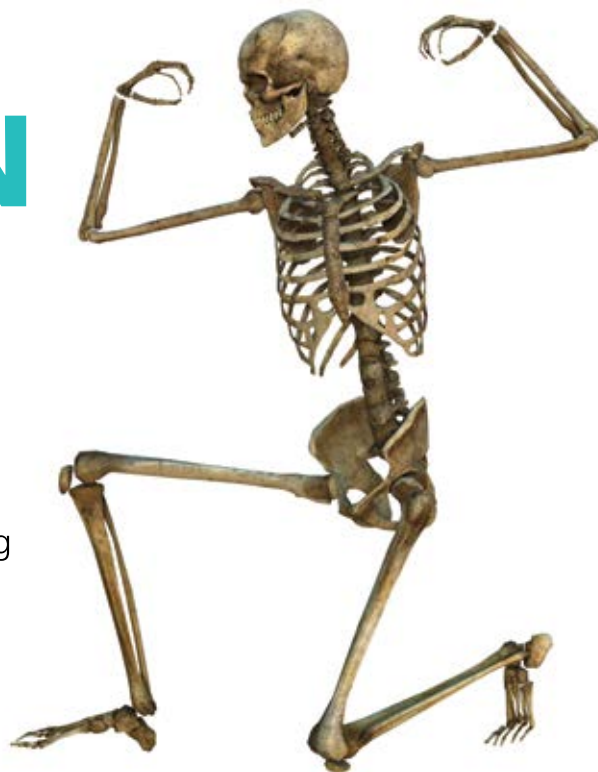
我们呼吁各界慷慨捐输，一起协助像PG和NA这样的患者，当然也包括来自更远州属如北部的玻璃市或吉兰丹，以及南部的柔佛的患者们。这些孩童都迫切需要专科医师的专业医疗，但是去见医生对他们而言，却有如一个遥不可及的梦想。请即日行动，你的热心捐助能够帮助这些孩子改变他们的命运，让他们有光明的未来。

有意者请即与大马关节炎基金会联系，慷慨解囊，协助我们去帮助他们。

LOOKING AFTER THE SKELETON IN YOUR CLOSET

The skeleton of our body is like scaffolding that holds the body up against the pull of gravity and works with muscle forces to allow mobility. It is made up of bones that are live tissue. They grow and change throughout your life in a highly regulated process called remodeling where mature bone tissue is removed and new bone tissue is formed. Bone remodeling maintains a balance between bone resorption and formation, thus maintaining skeletal integrity.

Ref: Hadjidakis DJ, Androulakis IL. Bone Remodeling. Ann N Y Acad Sci. 2006



Dr. Vim from *Physio Plus*

shares her expert advice on improving bone density and strength to ward off osteoporosis using exercise.



This balance changes with increasing age, resulting in loss of bone tissue. Less may be more, but not where your bones are concerned. Healthy bone looks like a thick honeycomb. When osteoporosis occurs, the holes and spaces in the honeycomb are much larger than in healthy bone. (National Osteoporosis Foundation).

The aging bone has reduced mineral content, and is prone to osteoporosis – a condition in which bones are less dense, more fragile, and prone to fractures.

Unlike some physical signs of aging - such as greying hair and additional wrinkles - it's impossible to see how your bones are changing as you age. Osteoporosis can sneak up on you. Clinical risk factors that predispose a person to osteoporosis include age, bone structure, weight, smoking, and ethnicity. A significant risk factor is the lack of activity or an inactive lifestyle. Bone mineral densitometry (BMD) scan can accurately measure the amount of calcium and other minerals present in the bone.

Some signs you may notice are:

- A feeling that you have lost some height or feeling a little more short
- Appearing hunched or stooped when you look in the mirror
- Weak joints and muscles
- Loss of balance
- Had a bone break or fracture

Improving Bone Density and Strength

Osteoporosis is more common in older people and often the reason for broken bones when they fall. Sometimes a compression fracture, when bones in the spine collapse, can produce pain and limitations in function. Hip fractures are a common problem post falls in older adults with osteopenia or osteoporosis.

As bone is a living tissue, bone strength can be improved through some types of exercise especially resistance training. Loading of the bone with suitable weights during exercise helps to increase bone density. Weight bearing activities such as walking or dancing, can help to strengthen your bones. A physiotherapist can work with you to find activities that suit your needs and strengthen your bones.

Bone Mass Building Exercises

Weight-bearing exercises can help to strengthen bones. These exercises include activities where you move your body, or a part of your body against a weight or some other resistance. Walking is a good form of weight bearing exercise against gravity, but it is not enough on its own to build bone mass. Exercise will only increase bone strength if it increases the loading of the bone above normal levels. Resistance training is an effective way to build bone density and prevent osteoporosis.

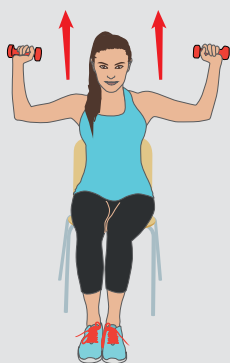
These include the following:

- Lifting weights
- Using elastic exercise bands (therapy bands)
- Using weight machines
- Lifting your own body weight
- Functional movements, such as walking, standing and rising up on your toes

The following sets of exercises can be practised twice daily.

The following sets of exercises can be practised twice daily.

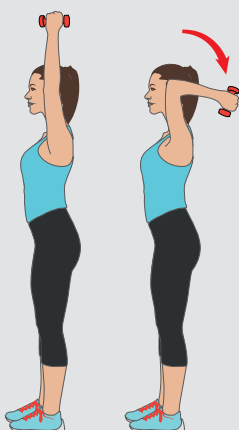
RESISTANCE EXERCISES WITH WEIGHTS/THERAPY BANDS:



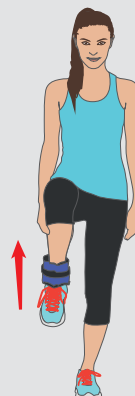
- 1 Seated shoulder press up and down.**
- Sit with a weight in each hand.
 - Raise the weights to your shoulder level.
 - Extend arms to press the weight straight up, and then straight down back to shoulder level.



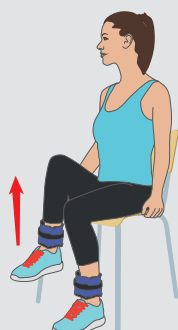
- 2 Seated biceps curls with weights.**
- Begin seated with your arms at your sides holding the weight.
 - Then bend your elbow bringing the weight up.
 - Return to the starting position.



- 3 Standing triceps stretch overhead.**
- Stand with a weight in one hand.
 - Raise the weight over your head.
 - Extend the arm to press the weight straight up and then straight down. (This can also be done seated)



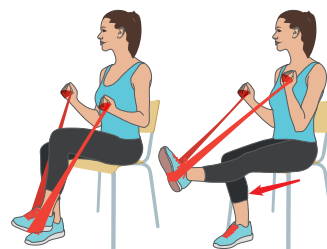
- 4 Standing hip lift with ankle weights.**
- Stand supported if balance is an issue.
 - Lift one knee to about 90 degrees.
 - Keep the toes pointed down.
 - Hold 5 counts.
 - Slowly lower your leg back to the floor. (This can also be done seated)



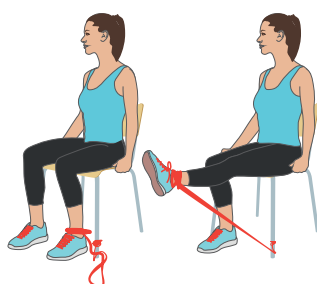
- 5 Seated, hip lifts with ankle weights.**
- Sit on a chair.
 - Lift one hip up to about 45 degrees while keeping your knee bent.

RESISTIVE BAND EXERCISES

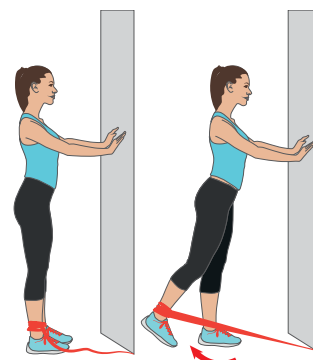
- 6 Leg press with therapy band.**
- Sit with band secured around foot.
 - Pull the foot towards you by pulling on the band.
 - Then straighten your foot against the therapy band.



- 7 Sitting, straightening knee against therapy band.**
(Works knee muscles)
- Sit with band secured to chair leg and the other end wrapped around ankle.
 - Raise your leg up and straighten your knee to 90 degrees.
 - Pull your toes towards you. Hold 10 counts.
 - Bring your foot back to the floor. It's important not to bounce your knee joint during this exercise.



- 8 Standing, lifting leg backwards against therapy band.**
(Works hip and buttock muscles)
- Stand with band secured to a stationary post/pillar/ table leg and another end tied around ankle.
 - Lift leg backwards against resistance.

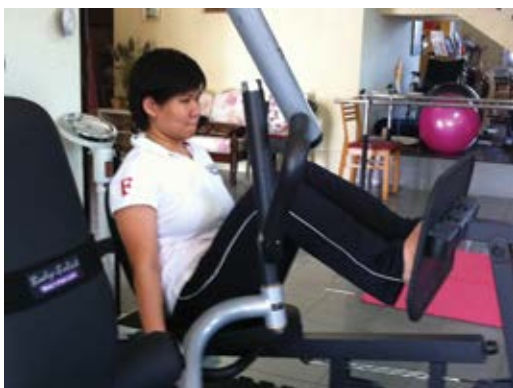


**Build up your count to 30 repetitions per limb.
Try to repeat at least twice a day.**

USE OF EQUIPMENT IN A GYM FACILITY

If you have access to gym facilities, you can benefit from the equipment that exercises your leg muscles against weights.

1 Leg Press



2 Leg Straighteners & Knee Curls



Regular exercise throughout life is the key to preventing Osteoporosis

The benefits in post-menopausal women and men over 50 are very well documented.

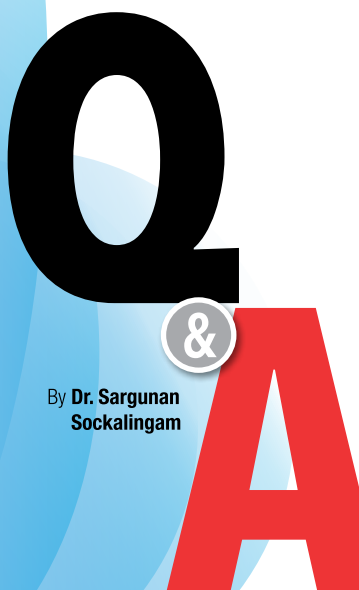
Exercise in these groups has been shown to:

- Minimise bone loss and possibly reduce the risk of broken bones
- Increase muscle strength
- Improve balance
- Improve your sense of wellbeing
- Improve cognitive (brain) function
- Enhance functional performance in daily tasks and activities
- Maintain or improve posture
- Relieve or decrease pain associated with other conditions such as osteoarthritis
- Reduce the risk of falls
- Reduce the risk of many medical conditions

Add activity to your day

Walking to the shops rather than taking the car/bus and using the stairs rather than the lift are simple examples of adding to the benefits of the more structured exercises described. If you have stairs at home or at work, aim for five flights a day, walking up and down the stairs (a flight can be 8–12 steps).

How much do you know about arthritis? Take this quiz and challenge yourself.



By Dr. Sargunan
Sockalingam

- Antibodies react against**
A. Body fluids
B. Politicians
C. Antigens
D. Pollen
E. Calcium
- The immune system is made up of T cells and**
A. A cells
B. B cells
C. C cells
D. D cells
E. E cells
- There are three types of blood cells. Red cells, Yellow cells and**
A. White cells
B. Blue cells
C. Green cells
D. Grey cells
E. White matter
- Which of these tissue/organ is responsible for movement**
A. Joint
B. Tooth
C. Kidney
D. Gut
E. Thymus gland
- One of the following is an immune-mediated disease**
A. Leukemia
B. Fracture
C. Pneumonia
D. Rheumatoid Arthritis
E. Brucellosis
- The following is viral disease that can cause severe joint pain**
A. Viral encephalitis
B. Chikungunya
C. Moya-moya
D. Rubella
E. Shingles
- The following are important components of the nervous system**
A. The oesophagus and stomach
B. Joints and synovium tissue
C. Brain and spinal cord
D. The middle ear
E. Ligaments and tendons
- The following are manifestations of rheumatological disease seen on the surface of the skin**
A. Pulmonary fibrosis
B. Carpal tunnel syndrome
C. Episcleritis
D. Uveitis
E. Rheumatoid nodule and tophi
- One of the following is considered a rare disease**
A. Rheumatoid Arthritis
B. Scleroderma
C. Influenza
D. Lupus
E. Gout
- The future of medicine is**
A. Quad core chips
B. Robot doctors and nurses
C. Herbal therapy
D. Artificial Intelligence
E. Virtual Reality

ANSWERS

- C. Antigens.** Antigen is a substance that is capable of stimulating an immune response, specifically activating lymphocytes, which are the body's infection-fighting white blood cells.
- B. B Cells.** B cells, also known as B lymphocytes, are a type of white blood cell of the lymphocyte subtype.
- A. White Cells.** White blood cells, also called leukocytes, are like your immunity cells. When your body is in distress and a particular area is under attack, white blood cells rush in to help destroy the harmful substance and prevent illness.
- A. Joint.** A joint is the point where two or more bones meet. There are three main types of joints; immovable, partially moveable and freely moveable joints. They allow for different degrees and types of movement.
- D. Rheumatoid Arthritis.** An immune-mediated inflammatory disease (IMID) is any of a group of conditions or diseases that are characterized by common inflammatory pathways leading to inflammation.
- B. Chikungunya.** Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It causes fever and severe joint pain. Symptoms also include muscle pain, headache, nausea, fatigue and rash.
- C. Brain and spinal cord.** The brain and spinal cord form the central nervous system. This complex system controls the things we choose to do; like walk and talk, as well as the things our body does automatically; like breathe and digest food. It is also involved with our senses; seeing, hearing, touching, tasting, and smelling, as well as our emotions, thoughts, and memory.
- E. Rheumatoid nodule and tophi.** Patients may present with these nodules at the time of initial diagnosis, but typically, they develop as a later manifestation of RA. They are skin colored and may be single or clustered. Tophi is a deposit of crystalline uric acid and other substances at the surface of joints or in the skin or cartilage and is a typical feature of gout.
- B. Scleroderma.** "Scleroderma" comes from two Greek words; "sclero" (hard), and "derma" (skin). Hardening of the skin is one of the most visible manifestations of the disease.
- D. Artificial Intelligence.** Artificial intelligence (AI, also machine intelligence, MI) refers to the intelligence demonstrated by machines, in contrast to the natural intelligence (NI) displayed by humans and other animals.

In Conversation
with

Rukmani Devi

Young Rukmani Devi pursued her dreams of being a designer and studied in Mumbai, India. On coming back she successfully ran her own designing and tailoring business for many years. But due to misfortune and ill health she had to close her business and she now lives on her own.

She was diagnosed with osteoarthritis and subsequently rheumatoid arthritis as well. It began some 15 years ago when she experienced symptoms like difficulty in walking, unsteady gait etc. About ten years ago, when she woke up one morning, says Rukmani, "I couldn't get out of bed as my left leg was completely stiff from below the knee. It was a very scary situation". She was rushed to the hospital and diagnosed with thrombosis, as they found a blood clot in her leg. She had to be operated on eventually and the blood clot was removed from her back. It was the most difficult time reveals Rukmani, "as it was like my body had forgotten how to walk and I had to be trained by the physiotherapists how to walk again. My muscles too were very weak and had to be strengthened through regular exercise. The doctor also warned me that I would have to be very careful in the future and try and not fall again".

That was easier said than done as since then she has had some accidents; breaking her teeth, cracking her pelvis, but all of which she bravely coped with the help of her siblings and neighbors, who on a day-to-day basis helped her buy food. She is diabetic too and she says, "My doctor told me that anxiety and stress levels are all reflected in the high diabetic readings. Recently my toe swelled up and it was so painful that I could not get out of bed. It was so bad that I had to be admitted in the hospital immediately and given intravenous antibiotic drip for four days continuously. My CRP (C-reactive protein) levels, a blood test marker for inflammation in the body, was so high (80) and it had to be brought down to the normal level which was 10".

In order to build back her health, her brother introduced her to DXN Malaysia supplements and she now swears by them. She also completely revamped her diet.



Rukmani excludes from her diet

- White Flour
- Dairy including; butter, cheese, milk and milk based products
- Sugar, including sweet drinks like Milo and other sweetened beverages
- Processed foods

Rukmani includes in her diet

- Ghee
- Coconut oil
- Gingili oil
- Lots of vegetables of every colour, including leaves
- Lots of yoghurt
- Occasionally kampung chicken, local goat
- Fish
- Spirulina tablets

She does her own cooking, follows her doctor's advice to exercise regularly, and remains active. She looks forward to the PACE exercise classes conducted every week at AFM as, "it's a good chance to meet with friends, exercise together and socialize as well". Says Rukmani, "As I live alone in my house I consciously cultivate conversations with people in my neighborhood and they in turn are extremely supportive when I have a medical problem or am housebound. Besides building connections, it also helps me to support people with a listening ear and give back to society in my own way. I also do my own marketing and go to Brickfields or old Klang road regularly.

For the last twenty years or so I have been a practicing Buddhist and every day I have my own ritual of chanting mantras. All this helps me to cope with the emotional challenges of living alone and the physical challenges of my arthritic conditions. I believe in the philosophy, 'Do good' and as much as possible, do not hurt other people". Though no longer in the fashion business, Rukmani still sews the occasional sari blouse for friends and well-wishers and stays active and connected.

People with Arthritis Can Exercise (PACE)



Ms Annie Hay,
Chairman, RASG
shares with you the
benefits of belonging
to a Support Group.



We all know that exercise has a lot of benefits for people, especially for those with arthritis. But what you may not be aware is the extent of benefit, that exercise is considered the most effective non-drug treatment for reducing pain and improving movement in patients with osteoarthritis and rheumatoid arthritis.



Benefits of arthritis as treatment

A tailored program that includes a balance of three types of exercises; range-of-motion, strengthening, and endurance, can relieve symptoms of arthritis and protect joints from further damage. Following a regular exercise program enables people to live a more pain-free, independent life. The benefits include:

- better range of movement and joint mobility
- better pain management
- increased muscle strength
- stronger bones – which can help protect against osteoporosis
- weight control
- improved balance and co-ordination
- reduced stress
- improved sleep patterns
- increased energy levels
- better breathing
- improved self-esteem.

Multiple studies show that mild to moderate exercise is beneficial for people with arthritis. However, everyone's circumstances are different, so having a discussion with your doctor before starting on an exercise program is important. Together with your doctor and/or physical therapist you can design an exercise plan that is best for you.

How much exercise is good

Always follow the advice from your doctor or physical therapist. In general, range-of-motion exercises should be done every day. Exercise is good. But exercise intelligently.

Regardless of the exercise program you select, it's important to begin slowly and choose a program you enjoy so that you maintain it. Make exercise part of your daily routine so that it becomes a lifetime habit.

The RASG conducts PACE exercise session every Wednesdays between 11-12am. These classes are conducted by trained physiotherapists from Physio Plus. According to Dr. Vimala, "The exercises are designed to increase flexibility, joint stability, muscular strength and cardiovascular endurance".

Come and join our PACE classes and in our next issue of Joint Efforts, I will share with you further on, "How to build an exercise routine into your daily life".



For further details contact AFM at

03-79606177



MARKING A GENTING GROUP MILESTONE WITH GENEROSITY

The Genting Group celebrated its inaugural Founder's Day, at Istana Hotel in Kuala Lumpur on the 28th of February 2018 in commemoration of what would have been their late Founder, Tan Sri Lim Goh Tong's 100th birthday, with his trademark culture of generosity and social responsibility. Genting Group chairman and chief executive officer Tan Sri Lim Kok Thay said that the company would celebrate its Founder's Day annually on February 28th to keep alive his legacy and core values; hard work, honesty, harmony, loyalty and compassion, that have proven to be invaluable for the growth of the Genting Group.

The dinner was attended by over 1500 employees and guests, including Genting Group deputy chairman Tun Hanif Omar and MCA president and Transport Minister Datuk Seri Liow Tiong Lai.



In remembrance of his father's generous spirit Genting Group donated RM 10,000 each to 14 charitable organizations, one of which was Arthritis Foundation Malaysia (AFM). Hon. Secretary of AFM, Annie Hay received the cheque on behalf of AFM. As part of their latest corporate social responsibility (CSR) initiative, they also signed a memorandum of understanding with Universiti Malaya for setting up and operation of a dementia care centre. It will help people with dementia to lead active and normal lives, while also running programs to train and support caregivers.

AFM would like to convey its deepest gratitude to the Genting Group for its continuing support over the years to AFM's efforts to uplift the plight of arthritis sufferers.
THANK YOU GENTING!



President of AFM
and Consultant
Rheumatologist

**Dr. Sargunan
Sockalingam** speaks his
mind on current issues that
confront him in the medical
profession.

In the previous issue of *Joint Efforts* I wrote about e-medicine. The field of healthcare is moving quickly to the digital platform, complete with real time analysis, diagnostics and management algorithms. In this era of super processors and advanced computer chips, it is easy to imagine how fast the field will develop.

However, there is one crucial concern. In fact, it is the elephant in the room. The issue of money. Who is going to fund all of this? More importantly, the question arises, how can we merge all of this capability with the ability of individual patients and their families to raise money for the cost of this healthcare?

It is all well and good to talk about artificial intelligence (AI) and to have our jaws drop in awe over AI's capacity, but somehow when we talk about money, everything becomes quiet. There are talks about how difficult it is to get funding, and it is understandable. But look at the newspapers. Malaysia is showing good growth with exceptional increase in Gross Domestic Product (GDP) and great amounts of money earned through exports. We hear about billions of Malaysian Ringgit being invested abroad, and a friendly giant of a nation that is so impressed with us that they are helping our infrastructure; buying up power plants, constructing cylindrical buildings that reach up to the sky and building railways. Such things do not come free of charge. No silence there.

Unfortunately, the message is loud and clear. Funding has to come from the people. Until we get reasonable interest from corporates (both public and private) we have to take matters into our own hands. And that is through a digital platform. We have heard of crowd sourcing platforms, like Kickstarter. There are now many platforms and there is even one that helps NGOs raise money. While there are plenty of conversations on this matter, the time has come to act. AFM's website too will undergo changes to be a more effective and engaging platform

of information and interaction. The changes will take place over a period of two months, and we are speaking with talented professionals who are driven and keen to see results.

People are always looking for information and there are many websites that cater to this. Information is of course, freely available. But like all things, everything has a "quality tag" attached to it. What if, the information provided is secure and reliable? What if, the website itself generates action, the way status updates and comments do on social media? These are the factors we are looking into. We have the resources to generate virtual activities that can be transformed into real activities and thus made more dynamic. Our *Joint Efforts* magazine is full of news about our activities, and their pages are filled with photos of people from all ages and all walks of life coming together for one common cause. Everyone leaves these meetings and activities feeling rejuvenated and inspired. We are able to raise funds, every time we have such events. By taking this concept virtual, we hope to be able to achieve our results more quickly and rapidly.

For the next World Ankylosing Spondylitis Day (WASD), we are going to use the website to document our efforts in providing patients with the necessary funds to acquire biologic therapy. We will start with efforts to support patients with Ankylosing Spondylitis, and we hope to move on to patients with Rheumatoid Arthritis and Psoriatic Arthritis.

We are currently in the process of drafting procedures and protocols that will enable this process to run smoothly. When WASD comes around, we hope to introduce you to at least two patients who have benefited from our efforts. We hope for the best for them. And these are the results we work towards. It would certainly be a step in the right direction. And it is hard work that would have achieved it. Do wish us luck.

FIND A RHEUMATOLOGIST

The following is a list of hospitals which offer Rheumatology services:

Wilayah Persekutuan

- Gleneagles Intan Medical Centre, Kuala Lumpur
- Hospital Kuala Lumpur, Kuala Lumpur*
- Hospital Putrajaya, Putrajaya*
- Hospital Universiti Kebangsaan Malaysia, Kuala Lumpur*
- Al – Islam Specialist Hospital, Kuala Lumpur
- Pantai Hospital, Kuala Lumpur
- Prince Court Medical Centre, Kuala Lumpur
- KPJ Tawakal Specialist Hospital, Kuala Lumpur
- Pusat Perubatan Universiti Malaya, Kuala Lumpur*
- University Malaya Specialist Centre, Kuala Lumpur

Selangor

- KPJ Ampang Putri Specialist Hospital, Selangor
- Hospital Selayang, Batu Caves*
- Hospital Serdang, Serdang *
- Sime Darby Medical Centre, Petaling Jaya
- Damansara Specialist Centre, Petaling Jaya
- Sunway Medical Centre, Petaling Jaya
- Hospital Tengku Ampuan Rahimah, Klang*
- Columbia Asia Hospital Bukit Rimau, Shah Alam
- Ara Damansara Medical Centre, Shah Alam
- Assunta Hospital, Petaling Jaya

Kedah

- Hospital Sultanah Bahiyah, Alor Setar*

Pulau Pinang

- Hospital Pulau Pinang, Pulau Pinang*
- Bone, Joint & Pain Specialist Centre, Sunway Perdana, Pusat Bandar Seberang Jaya, Seberang Prai

Melaka

- Hospital Melaka*

Johor

- Hospital Sultan Ismail, Pandan, Johor Bahru*
- Columbia Asia Hospital Nusajaya, Johor
- Hospital Pakar Sultanah Fatimah, Muar

Negeri Sembilan

- Hospital Tuanku Jaafar, Seremban*

Perak

- Hospital Raja Permaisuri Bainun, Ipoh*
- Hospital Pantai Putri, Ipoh

Kelantan

- Hospital Raja Perempuan Zainab II, Kota Bharu*

Terengganu

- Hospital Sultanah Nur Zahirah, Kuala Terengganu*

Sabah

- Hospital Queen Elizabeth, Kota Kinabalu*

Sarawak

- Hospital Kuching, Kuching*

* Government or University Hospital - Patients wishing to see a rheumatologist at a government or university hospital require a referral letter from their general practitioner or another doctor.

AFM'S LEADERSHIP

PATRON TRUSTEES

Toh Puan Dato' Seri Hjh Dr. Aishah Ong
Tan Sri Dato' G. Hari Narayanan
Tan Sri Dato' Dr. Abu Bakar Suleiman

EXECUTIVE COMMITTEE 2017-2019

PRESIDENT VICE-PRESIDENT HON. SECRETARY HON. TREASURER ASST. HON. TREASURER

Dr. Sargunan Sockalingam
Ms. Kunamony S. Kandiah
Ms. Annie Hay Seow Ping
Ms. Doris Chua Yay Lim
Ms. Ding Mee Hong

COMMITTEE MEMBERS

Dr. Amir Azlan Zain
Puan Sri Samaladevi Navaratnam
Dr. Tang Swee Ping
Dr. Cheah Tien Eang
Datin Seri Nagula Thambidurai
Dr. Shamala Rajalingam
Dr. Cham Weng Tarn
Dr. Vimala Marimuthu
Ms. Amy Lee Ka Siem

EDITORIAL TEAM

EDITOR CREATIVE FINANCIAL ADVISER COORDINATOR DOCTORS COMMITTEE

Shailaja Menon
Lam Chee Hau
Chua Yay Lim
S. Shantamalar
Dr. Sargunan Sockalingam,
Dr. Amir Azlan Zain, Dr. Tang Swee Ping,
Dr. Cheah Tien Eang

PRINTER

Kuan Press Sdn Bhd
No. 9 Jalan SR3/7,
Taman Serdang Raya, Sekysen 3,
43300 Seri Kembangan, Selangor.
Tel: 03-8948 559 Fax: 03-8948 3379

KEEPING CURRENT AFM constantly updates its registry and routinely delists members whose subscriptions are persistently in arrears. The only notice of this to members will be when they fail to receive their copies of Joint Efforts. Please remember to check your subscription status and keep it current. Do note that Lifetime memberships, at a one-off payment of RM200, would eliminate the need to keep tab on your subscription status, and would ensure uninterrupted receipt of Joint Efforts. For further clarification, please call AFM at +603 7960 6177 (Mon to Fri, 8.30 to 16.30 hrs).

DISCLAIMER While all care is taken to ensure that the information in this newsletter is accurate, the authors and publishers of this newsletter cannot be held liable for any loss or harm suffered by any person, by any reason of information contained in this newsletter or any inaccuracies, omissions or misrepresentations in any article in this newsletter. Readers are at all times cautioned to consult a suitable qualified medical practitioner before acting on any information contained in this newsletter.

ARTHRITIS FOUNDATION, MALAYSIA MEMBERSHIP APPLICATION / RENEWAL FORM

NAME:		I/C NO.:	
OCCUPATION:		MARITAL STATUS:	
E-MAIL:		GENDER:	
HOME ADDRESS:		MEMBERSHIP NO. (IF RENEWAL)	
<hr/>			
TEL NO:	MOBILE NO:	FAX NO:	
OFFICE ADDRESS:			
<hr/>			
TEL NO:	MOBILE NO:	FAX NO:	

I enclose herewith payment of RM _____ Cheque/Money order no. _____
BEING PAYMENT FOR:-

NEW MEMBER:

- ☐ Ordinary Member (RM35)
(Registration fee: RM20, Annual Subscription: RM15)
- ☐ Life Member (RM200)
- ☐ Corporate Member (RM 1,500)
(Registration fee: RM 1,000, Annual Subscription: RM500)

MEMBERSHIP RENEWAL

- ☐ Ordinary Member
(Annual Subscription: RM15)
- ☐ Corporate Member
(Annual Subscription: RM500)

Please cross your cheque and make it payable to:

ARTHRITIS FOUNDATION MALAYSIA

Peti Surat 10, Tingkat Bawah, Bangunan Sultan Salahuddin Abdul Aziz Shah,
16, Jalan Utara, 46200 Petaling Jaya, Selangor Darul Ehsan.

Signature of applicant

Date:

Rediscover Life

In Rheumatoid Arthritis, Psoriatic Arthritis & Ankylosing Spondylitis

It's not only about relieving pain¹, it's also about preventing further joint damage¹ and doing the things you love once again. Ask your rheumatologist today.



PP-RHU-WY-0027 26th April 2018

Reference: 1. Emery P, Kavanaugh A, Bao Y, et al. Comprehensive disease control (CDC): what does achieving CDC mean for patients with rheumatoid arthritis? *Ann Rheum Dis* 2015; 74:2165-2174

ABBVIE SDN BHD (987315-T)

Level 9 Menara Lien Hoe, No.8 Persiaran Tropicana,
47410 Petaling Jaya, Selangor Darul Ehsan, Malaysia.
Tel: +603 7883 6888 | Fax: +603 7883 6838

abbvie