

Evolution Of Orthopaedic Research In Malaysia

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ABSTRACT

Orthopaedic research in Malaysia started with the establishment of Chairs in Orthopaedics in the local universities since 1962. Research is necessary for critical thinking, to publish or perish, to put the department on the international map and for R&D for the country. Fifty years is a sufficiently long period to trace its evolution. The three awards in this year's scientific meeting for different types of orthopaedic research is a reflection of promotion of research by the MOA. More importantly, there is commitment by the Ministry of Higher Education, for High Impact Research to improve the position of local universities in the international ranking and for R&D to improve the country's economy. Funds for good research projects are easily available now. In addition multidisciplinary research teams have been formed in the universities to achieve these objectives. They are headed leaders in orthopaedic research in UM, UKM, USM and UIIM with PhDs. There are also competent research leaders without it. This talk traces translational research by the author with limited funds from 1960s. The three basic strands of the lecture are originality of thought, originality of research and lifelong experience. But orthopaedic research in Malaysia has moved on to the highways of High Impact Research and the current publications are on molecular cell biology and tissue engineering. Though this is necessary, we also need research to solve local orthopaedic problems in the country. The movement on the highway of translational research also needs to move in the direction of local orthopaedic problems like musculoskeletal infections, diabetic foot, amputations, prostheses and degenerative diseases of musculoskeletal system.

Orthopaedic Training: Our Role As Mentor, Trainer And Examiner

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ABSTRACT

The Australian Orthopaedic Training program began in 1967 and quickly established a new standard in surgical education. Although the Australasian College of surgeons has the nominal authority to answer to the accrediting regulator, it delegates the selection and training to the Australian Orthopaedic Association. The components of the selection process will be discussed. The curriculum is unified over all Australia. The features of the training program will be outlined including QARs and DOPS reports. The examining process has several component parts, the part two exam is an exit exam. The Court of Examiners is divided into Specialty Courts. In Orthopaedics the examiners are chosen from the Orthopaedic Fellowship. I will describe the exam in detail. The future of surgical education is exciting as the internet allows global access to information and the delivery of lectures can now be on line, a great help to the trainees in rural posts. Mentoring has been mainly on an informal basis, perhaps reflecting the Australian character. However, it does fulfill an important role especially in the non technical competencies that are an increasingly important part of surgical practice

Walking Or Running: What's The Difference? Injuries & Biomechanics

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ABSTRACT

Walking and running are two different activities marked by the different intensity of forces acting on the body and its velocity along the sagittal plane. Walking is described as an inverted pendulum motion. In walking, there is economy of energy changes between kinetic and potential energy by small centre of gravity fluctuations. In running, it is described as a bouncing mechanism or spring mass motion greater exertions of the contractile and elastic elements of body muscles. Injuries in lower limb especially in running are started out by hyper pronation. Physiological pronation with no pain is useful as shock absorption. Hyperpronation starts off abnormal chain of kinetic motion in lower limb bones and joints. As a result, from bottom up, overuse sprains occur such as in the foot, shin splints, patellofemoral disorders and hamstrings. Sports shoes as opposed to barefoot running offer significant advantages but can be limited. The human foot as in barefoot running is a natural shock absorber but barefoot running has its injurious disadvantages on terrain with unwanted sharp objects and slippery ground. Sports shoes shield the natural ability of the foot shock absorption function therefore, foot muscles are not trained. In conclusion, despite the many advantages of walking, running, use of sports shoes and barefoot running, there are limitations which should be identified systematically. These limitations can be controlled with a prevention strategy of avoiding overintense activities, rest periods and good muscle training.

Keywords: Walk, Run, Hyperpronation, Overuse.

 SP 066

My VO₂ My Fitness UMMC Experience

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ABSTRACT

Capacity to improve the Volume of Oxygen (VO₂) is important for the metabolic function of body cells. Maximum oxygen uptake (VO₂max) is a measure of cardiorespiratory fitness. Those who are fit and have higher VO₂max values can exercise more intensely than those who are not conditioned. It is one of the standard measures of physical fitness; it could be used to show impairment in the cardiorespiratory system due to cardiovascular disease, bed rest or other conditions. There are direct and indirect measurements of VO₂. The VO₂ measurement in general, tests to measure the aerobic capacity involve a progressive increase in work usually performed on a treadmill or bicycle ergometer, to the point at which further increments of work are accompanied by a plateau, decrease, or slight increase in the oxygen consumption. The work is performed continuously. In this session, we would like to share our experience performing both direct and indirect method of measuring VO₂ in patients and athletes and the importance of improving VO₂ level for health and performance.

Step By Step

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ABSTRACT

Step by step looks briefly at a case that presented with a chronic painful wrist in a young recreational athlete to a government hospital. Physicians treating pain in both the young and Master athletes must always choose the course best suited to the Individual patient and the variables in existence at the moment of decision. Step by step takes us through the present guidelines in minimizing gastrointestinal complications and cardiovascular safety concerns with the use of COX-2 inhibitors and NSAIDS as we manage pain in the young and Master athletes. It also touches on the importance of managing elite athletes by generalists and ensuring proper medical documentation in the use of injectables and oral medication for elite athletes and hence avoid accusations of doping in sports.

SP 068

I Want To Run Again

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ABSTRACT

Knee injuries represent roughly six percent of all acute injuries treated at emergency departments of hospitals and between 27% and 48% have been reported to be sports related (Kannus and Jarvinen, 1989; Nielsen and Yde, 1991; Yawn *et al.*, 2000; Ansari *et al.*, 2004). The patient must fulfill specific criteria to progress from one stage to the next stage which allows for patient individuality and variability in the rehabilitation program. Rehabilitation program must be based on current clinical and scientific research. Rehabilitation program must not be a cookbook, rather, it should be adaptable to each patient's goals and characteristics (Wilk *et al.*, 1992). Some athletes are able to return to high level pivoting sports without surgery (Myklebust *et al.*, 2005). Among patients treated non-operatively, the return rate ranges from 19% to 82% (Myklebust *et al.*, 2005). Despite their injury, the athletes who successfully return to sport after non-operative treatment probably represent a selected group with functionally stable knees and a strong motivation to continue pivoting sport (Myklebust *et al.*, 2005). Lastly, the successful outcome is directly related to a team effort, which comprises the surgeon, physiotherapist(s) and patients. The whole team should work together through effective communication in order to achieve a common goal.

Traumatic Brachial Plexus Injuries - Differentiating Root And Brachial Plexus Lesion

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ABSTRACT

Idiopathic brachial neuritis (IBN) also known as neuralgic amyotrophy, acute shoulder neuritis, acute brachial plexus neuritis, idiopathic brachial plexus neuropathy or Parsonage Turner syndrome is a disorder of unknown etiology with asymmetric involvement of the brachial plexus. It is important to recognize this problem early in order to avoid unnecessary and potentially harmful diagnostic and therapeutic intervention, and avoid delays in prescribing appropriate therapies that may be helpful only in the early course of the disease. Although the etiology remains unclear, but an immune attack on the brachial plexus or its branches within the limb triggered by various causes has been suggested as a cause. These include infection, vaccination, pregnancy and parturition, trauma at a remote site, surgery, radiation, intravenous heroin use and also treatment with interferon. The typical clinical course starts with acute, severe, aching unilateral shoulder and proximal arm pain lasting from days to few weeks. When the pain resolve shoulder girdle and arm weakness develops, mainly affecting deltoid, supra and infraspinatus, serratus anterior and biceps. These affected muscles will recover slowly which takes normally 6- 18 months. In contra with cervical radiculopathy the pain begins in the neck and radiates down the arm for variable distance. Pain is aggravated by neck movements. Pain may begin spontaneously following physical exertion or trauma but may have no apparent cause. Pain and muscle weakness occur simultaneously. In IBN the treatment will be conservative and in cervical radiculopathy may need decompression if conservative management fail.

 SP 070

Nerve Injuries And Compression Of The Upper Limb In Sports

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ABSTRACT

Peripheral nerve injury is a rare athletic injury. It is estimated to have an incident of 0.3% of sports injuries. The upper limb nerves most frequently involved are brachial plexus, median nerve, radial nerve, ulnar nerve, axillary nerves, supra scapular nerve. The most common sports involved mountain climbing, gymnastics, baseball, bike riding, weight training. Most often, peripheral nerve injury is caused by continuous compression and repeated trauma of the involved nerve. It presents with an entrapment neuropathy and in most of the cases, symptoms could be improved by conservative treatment. Some may present as chronic compartment syndrome and fasciotomy can relieve the symptoms. Those cases complicated by fractures require surgical exploration, release or repair. Electrophysiological study may be needed for diagnosis. Proper warming up, stretching exercises, rest periods, avoidance of difficult positions may prevent nerve compression.

Ligamentous And Tendinous Injuries Of The Hand (In Sports)

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ABSTRACT

Ligamentous and tendinous injuries of the hand are common in sports. They often occur as part of an injury complex such as joint dislocations. These are most commonly considered sprains and treated as such. There needs to be an awareness that apparently innocuous hand injuries can have significant impact on function if not correctly diagnosed and treated. The most common error in such treatment is under recognition of the extent of injury and failure to institute correct management. The resultant stiffness or joint injury is usually permanent. Ultrasound at the point of clinical care has the potential to revolutionize the treatment of these injuries. It has excellent soft tissue resolution, is safe, can be used to assess structures dynamically and is user friendly. This field of application is new, and must be correlated with what is already known about the natural history of such injuries. Diagnostic ultrasound here is being used as an extension of the clinical examination, not as it has been traditionally used by radiologists. The basics of ultrasound application in the detection of soft tissue injuries will be explored. The scope of use will be considered, as well as the limitations of this modality. With this new modality, new ways of thinking need to evolve about the information that can be obtained, and how it can be effectively used in clinical care of the injured hand. The aim of the exercise is expedient care of the injured hand, with least amount of immobilization or intervention, which does not compromise the long term outcome.

 SP 072

Sports Injuries Affecting Bone & Joint Injuries Of The Hand

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ABSTRACT

In sports, the hand and wrist comprises one in four of all fractures. Injuries occur most frequently at the distal extremities involving the phalanges and metacarpals followed by the carpal bones. Most injuries are minor but some are more serious. For example a “dislocation” may really be a “fracture-dislocation”. Eponyms commonly denotes how frequent these events are eg boxer’s fracture, and mallet finger. Boxer’s fractures are rarely seen in professional boxers instead in angry or drunk persons punching a wall. Surprisingly these neck of fifth metacarpal bones do quite well with conservative treatment even in marked angulation. We will discuss dislocations and fracture dislocations of the PIPJ, DIPJ and MCPJ. Fracture dislocations of the PIPJ can be notoriously difficult to treat especially with a delayed presentation. Cricketers and baseball players sustain these injuries as they catch high speed balls striking the end of their fingers. Carpal bone fractures include the scaphoid and hook of the hamate. The hook of the hamate can be injured when a golfer misses a ball and the club hits the ground transmitting the force up the handle. Often these injuries are missed and presents later with a painful non-union. An overview of possible treatment options for the injuries above are outlined.