

MUSCULOSKELETAL CARE

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INTRODUCTION

The musculoskeletal system is made up of Bone, Muscle, Tendon, Ligament, supporting Nerves, and blood vessels. Injury and disease will adversely affect the integrity and function of these structures and hence decrease the ability to perform daily activities of living. Contrary to believe many of these conditions can be effectively treated by the family physician in the office setting.

Patients with musculoskeletal condition commonly presents with pain, deformity and weakness. Like many other branches of medicine, the evaluation of such condition begins with history and physical examination. The general principles of inspection, palpation, assessment of function (power, sensation and range of motion) are the same as any.

Investigation is only useful for confirmation of diagnosis. Examples include X-rays for bony problems, HLA-B27 for ankylosing spondylitis, and Rheumatoid factor for rheumatoid arthritis. Most musculoskeletal problems encountered in primary care are soft tissue lesion. In such instances, X-rays can be misleading as soft tissues are radiolucent. It often disclosed some symptomless abnormality, which is incorrectly regarded as the source of the pain. This is clearly illustrated by the complaint of stiff neck. X-rays of the cervical spine often shows spondylosis, but the patient's symptom are acute and the osteophytes have been in existence for decades. It is likely that the pain is from another source. In fact spondylosis is common diagnosis in individual over 40 years of age.

COMMON CONDITION ENCOUNTERED IN PRIMARY CARE

Arthritis

The etiology of arthritis ranges from non-inflammatory degenerative process of aging to acute infective process. The disabilities also vary from stiffness to crippling disease.

Osteoarthritis is the most common type of arthritis. It is a result from deterioration of articular cartilage, formation of new bone and osteophytes. It is so common that virtually when everyone has reached the middle age, we would have some form of degenerative changes in the fingers or weight bearing joints. Primary Osteoarthritis develops without cause, whereas secondary osteoarthritis develops as a result of trauma, or neuromuscular disorders. It is characterized by stiffness and pain with activity.

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Inflammatory arthritis is a large group of disorders comprising Rheumatoid arthritis, seronegative spondyloarthropathies, crystalline deposition and septic arthritis. **Septic arthritis** is an emergency demanding prompt diagnosis, treatment with antibiotics and even surgical drainage and lavage. **Crystalline arthropathies** usually presents acutely with intense pain and swelling usually involving the first metatarsal phalangeal joint. **Rheumatoid Arthritis** is an autoimmune disease of unknown etiology. It is characterized by a destructive synovitis, morning stiffness and symmetrical involvement affecting primarily the joints of the hands, wrists feet and ankle. The seronegative arthropathies are a group of disorders characterized by the following: sacroiliitis, spondylitis, peripheral joint arthritis, extra-articular site of inflammation, associated with HLA-B27 antigen and negative RA factor.

Bursitis and Tenosynovitis

These conditions are common in adults. It follows an injury or repetitive motion. Flexor tenosynovitis of the hand (trigger finger), de Quervain tenosynovitis at the wrist and bursitis of the shoulder joint response well to corticosteroid injection. Injections into the ligamentous structure carry the risk of spontaneous rupture of the ligament and are usually quite painful. For this reason the archillis and patellar tendon should not be injected.

Osteoporosis

Primary osteoporosis is the most common and costly bone disease. Secondary osteoporosis is a result of disease such as hyperparathyroid and chronic renal disease. With an aging population in Singapore, there will be an increase incidence of fractures and deformity related to osteoporosis. Prevention of excessive bone loss with aging and its disabling consequences is of utmost importance to all physicians.

A search of the National Clearing House database with the search word Osteoporosis reveal 68 guidelines. This excludes many others issue by health ministry of various countries including Singapore. However, all these guidelines have similar consensus.

1. The best test by far is to measure bone density of the hip and spine using dual energy X-ray absorpiometry (DXA). The WHO definition of osteoporosis based on T scores is as follows: A T score of >-1 is normal, -1 to -2.5 is osteopenia and < -2.5 is osteoporosis.
2. The presence of a fracture indicates severe osteoporosis.
3. To decide who to send for a bone mineral density (BMD) measurement, the OSTA (Osteoporosis Self-Assessment Tool for Asians) based on age and weight can be used.
4. The indications for bone density measurement are:
 - κ Personal history of previous fracture as an adult

- κ History of fracture in a first degree relative (especially maternal)
- κ Low body weight & older age
- κ Current cigarette smoking
- κ Alcohol abuse (stronger data in men)
- κ Drugs e.g. corticosteroids (equivalent to prednisolone > 7.5 mg/day for more than 6 months), excess thyroxine, anticonvulsants
- κ Ongoing disease conditions e.g. hypogonadism, hyperthyroidism, hyperparathyroidism, Cushing syndrome, chronic obstructive airways disease, liver disease, malabsorption, chronic renal failure, rheumatoid arthritis, organ transplantation and anorexia nervosa
- κ Low calcium intake (< ~500 mg/day among Asians)
- κ Lack of regular physical activity
- κ Early surgical menopause

Backache

Back pain is a common presentation to the primary care physician office. It has been estimated that low back pain affects 60% to 80% of the adult population. It often does not alter function or comfort but it often threatens employment and recreational activities. It is also the most common cause of sickness absence from work. Patients with persistent pain are

often dissatisfied with treatment programmes because of the recurring nature of their problem. Most episodes of back pain resolves within a few weeks without residual effect. However, it is important to perform a thorough medical history and examination to establish a diagnosis. This is important as not to miss serious etiology such as a malignant tumour most of which are metastatic. Non-operative treatment should be the treatment of choice in most cases of back pain including prolapsed inter-vertebral disc. Patients should continue to work, although some job modifications may be needed. Ultimately, for some patients they may have to change their jobs. Educating patients about the nature of their spinal problems and the impact of these problems is a challenge.

Other aspects of musculoskeletal care that are important would be:

Trauma

Trauma is most likely to occur in young adults. Appropriate treatment can minimize time lost from work and permanent impairment.

Abuse

Child, spouse, and elderly abuse are complex and have serious consequences. Family physicians should be aware and be on the look out for such problems.