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Lower limb arthroplasty

(Hip and Knee).

Trauma.

Pelvic and Acetabular fracture surgery.

Pro Personal Therapy System in the current concepts management of Osteoarthritis (OA)

Osteoarthritis (OA), the irreversible damage to joint surfaces is often referred to as “wear and tear”. Occurring with a hundred percent certainty in all humans over the age of 40 years, it is the joint’s rate of wear that dictates the need for interventional treatment. A consistent association of the wear process is the reduction and ultimate loss of lubricating fluid (synovial fluid) in the joint. The consequence of a fluid depleted joint environ is accelerated and progressive joint wear. Current interventional therapies are aimed at retarding the rate at which progressive wear in OA occurs. Patients progress through four stages of OA.

Stages of osteoarthritis

OA is divided into four stages.

Stage 1 is characterized by softening of the cartilage surfaces due to depleted biomechanical reserve

Stage2 damaged cartilage surfaces appear as fine brushed surfaces with lower water content.

Stage 3 torn cartilage (chondral flaps)

Stage 4 exposed bone surfaces with no cartilage coverage.

Stages 1 and 2 OA are classed as mild and moderate disease respectively. The hallmark of these stages is the biochemical imbalance between two groups of cytokines (pro--inflammatory vs anti--inflammatory cytokines) which activate enzymes that destroy the joint cartilage. Stages 3 and 4 are classed as severe end stage disease.

Mechanical factors accelerating OA

Most experts agree that physical inactivity, obesity and abnormal joint loading (heavy lifting) predispose to and accelerate the rate of joint wear, ultimately resulting in OA.

The office of the surgeon general of England cited physical inactivity as an important factor in the rising incidence of obesity. In the morbidly obese, overall deterioration in tissues strength increases the compressive load on joints. Greater loads accelerate wear of cartilage covering of the joint (articular cartilage). Additionally, transfer of the heavier mass during gait leads to early fatigue of the supporting muscles and ligaments, subjecting the articular cartilage to further direct compression loading devoid of muscle and ligament support. The resulting abnormal joint mechanics is akin to that experienced by individuals who repetitively lift heavy weights for sports.

Symptoms and signs of osteoarthritis

All stages of the disease are characterized by pain. Initially localised to the affected joint, pain may progress to involve the opposite sided joint as the patient transfers more weight to the uninvolved joint. Adjacent joints may become painful due to referred pain, muscle spasm and abnormal loading. As the condition progresses, joint movement may be compromised and functional movement loss restrict daily activities. In the hip and knee joints, OA will restrict the ability to get into a car, use stairs, standing from the seated position and walking for long distances. In the wrist, elbow and hand joints, OA in the later stages may completely deprive the individual of their independence.

Treatment options

All patients will experience some improvement in their symptoms with an appropriate exercise and educational program. The prescription of such programs should be undertaken by a specialist with suitable anatomical and basic science understanding of OA in the affected joint. Otherwise, poor exercise compliance and weight gain soon become apparent.

Complementing successful exercise programs with the Pro personal therapy system (ppts) has in my practice generated the most effective outcome.

Balanced healthy diet and analgesia, compliments all treatment modalities for OA.

Supplements have been proved to be most effective in the early stages of OA.

Surgery in the form of arthroscopic procedures and joint replacement are successful as treatment of severe OA. However, the benefit of surgery must be balanced against well---established complications.

Pro Personal Therapy System in the Treatment of OA

In my practice ppts provides accelerated healing firstly through increasing blood flow to the limb and affected joint. This enhances the delivery of nutrients and healing factors (growth factors) to the joint, retarding the patient's progression through the stages of OA. Secondly, used on a regular basis ppts stimulates cellular metabolism and increases cell turnover rates. These manifest as drainage of joint fluid swelling in the inflammatory phase of OA, and increased secretion of joint fluid (through increase of fluid secreting cells) in the stages of poor lubrication. Thirdly, the relaxation effect of a session of ppts has often been reported by my patients as "relieving the night time muscle spasms". Through these mechanisms, ppts relieves osteoarthritic joint pain and stiffness. My patients have reported improvements in their physical strength and quality of life following ppts treatments. Although, ppts is principally suited for patients in the earlier stages of OA, patients with advanced end stage OA and particularly those who have undergone joint replacements would benefit from the healing potential of ppts. The potential of ppts contributing to the maximisation of the rehabilitation of the post---surgical patient is an exciting proposition for the future.

Examples

40 yrs old athletic male with stage 1 OA

Four ppts sessions, weekly, over six months in my opinion achieves the following outcome. In the relatively younger patient with early stage OA, the increased blood flow to the limb and bone marrow with ppts stimulates marrow stem cells and cartilage regeneration. Additionally, the supra---physiologic levels of blood flow achieved with ppts increase local concentration of growth factors enhancing cartilage healing. The resultant increase in cartilage cells healing is accompanied by greater water content and improved joint lubrication.