

Program: Hip and Knee Arthritis: Treatment and Outcomes

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Attendance: 99 devices logged in

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The Zoom recording of today's presentation can be found on the Sciencetech Club's website at:

www.sciencetechclub.org/zoom/497.mp4

Dr. Harrison used case studies to show left hip pain in a 56-year-old male and 94-year-old female with right knee pain. X-ray samples of a hip and knee were shown of both healthy and not-so-healthy patients

Arthritis (primary – wear and tear; secondary - due to another underlying medical problem e.g. gout, rheumatoid arthritis, etc.)) may cause inflammation, pain and disability. Thirty-three million people in the US (1 in 7 adults) have been diagnosed with arthritis; about half are still of working-age and eight million have activity limitations. Arthritis is #3 in the top medical conditions for Medicare patients; treatment of arthritis is #1 Medicare expenditure.

Treatment options:

For early disease, studies show there are helpful: pain control (anti-inflammatory meds), physical therapy (joints do better with weight bearing activity), weight loss, and bracing (can support muscles around the joint or take pressure off). Injections of four different types can be used to treat arthritis, including: corticosteroids which research has confirmed are helpful; gel-type are not recommended based on research; platelet rich plasma, promising but not a lot of research that shows efficacy yet; and stem cells (not covered by insurance, \$3-6000 cash plus out-of-pocket costs for deductible for later surgery, research is mostly biased, evidence is limited but has some potential).

Dr. Harrison recommended watching the pod cast "Bad Batch" by Wondery on stem cells
The surgical option is for severe disease – pain is constant, activities are very limited, etc.

Partial Replacements – good in focused portions of disease of younger patients

Total Joint Replacement (arthroplasty) is a resurfacing procedure where cartilage surfaces are removed and replaced by metal and plastic bearings to restore normal joint functioning

Arthroscopic procedures – for scraping cartilage or meniscus trimming. These may provide short term relief but may actually worsen progress of arthritis in long term

Arthroplasty history: it started out as just resurfacing procedures. The first hip replacement was done by Dr. Austin Moore in the 1940s and made popular by Sir John Chamley in the 60s.

Modern designs were developed in the 70s. Issues included cement disease and dislocations.

Modern arthroplasty includes press-fit implants; new bone grows into and onto them and they last a lot longer. Improvements over time included larger heads and better articulation to reduce dislocations. Implants are metal, plastic or ceramic; ceramic are longer lasting but could break into many pieces. Modern implants should last 20-30 years when used appropriately. Also, outpatient surgeries are more and more common if the patient is healthy, and has help at home and has good pain management.

The recovery plan after one to two days in the hospital is 1-2 weeks with a

walker, 3-4 weeks with a cane, 6 weeks post op with no mobility aid needed, up to 12 weeks before returning to work and 6-12 months to get to pre-surgery level for those in relatively good health.

Patient satisfaction perspectives of outcomes of total knee (KOOS) and hip (HOOS): for hip, 90+% satisfaction (much better tolerated) and for knees, 80+%. The vast majority have pain relief, the ability to do chores around home, participate recreational activities, and have an improved quality of life. Nothing is 100%; it doesn't help everyone.

Controversies center around the approach used in surgery: posterior (incision on side of leg), anterolateral (direct anterior works well for doctors with suitable experience!), or robotic (4-5 years old, minimally invasive, no need to see around the joint, faster recovery, more research/study needed). Robots don't replace experience and training. You should have the approach that your surgeon is good at; find the surgeon who's comfortable with the type of surgery you want. Toward end of recovery there's no difference in results depending on the approach.

Q&A

Supplements to reduce joint pain e.g. glucosamine are not recommended. Long term studies show no effect, but the risk of harm is low.

There's never an emergency to get joint surgery, unless severely limiting activities would worsen long term recovery.

Modern implants: the primary failure mode is wear. Dislocation and infection occur rarely (1-3%).

Blood supply to the bone is not negatively impacted by implants.

Peripheral nerve stimulator (PNS) system can be helpful for hip pain relief; Radio Frequency Ablation can also burn nerves to help pain relief

Best prevention to reduce arthritis is activity! Running is fine at moderate levels. Longer distances are not necessarily good and high impact activities are bad. There's a balance. Bones are designed to support our body weight; they break down and build up through weight-bearing activities.

After hip or knee replacement you don't have to quit running but it's better to do lower impact exercise (e.g. biking, rowing, elliptical). Running ten miles per day is not recommended.

In post-traumatic joint replacement, e.g. hip fracture, a young person can recover quickly. When it hurts to use joints we tend to avoid use which contributes to stiffness and slows recovery.

Synovial fluid comes from the lining of the joint that continues to lubricate the joint.

All name-brand joint systems are fairly equivalent.



Dr. Harrison