Total Joint Arthroplasty

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Disclosures:
- I am older than I look!!!!

314,986,376 people in USA

- An estimated 50 million adults in the United States reported being told by a doctor that they have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

MMWR 2010;59(39);1261-1265. [Data Source: 2007–2009 NHIS]

ARTHRITIS

- In 2007–2009, 50% of adults 65 years or older reported an arthritis diagnosis.

MMWR 2010;59(39);1261-1265. [Data Source: 2007–2009 NHIS]

- Pain
- Impaired mobility
- Impaired ADL

Our Demographics:
our population is aging!!!

- 2012: 324,986,376
- Over 65yrs: 38 million 12%
- 2030: USA 363,584,435
- Over 65yrs: 69 million 19%

Arthritis impacts many people.....

- My arthritis in my hands and shoulders is so bad, I can hardly hold my coffee cup," said one.
- "Yes, I know," said another. My cataracts are so bad I can hardly see my cup."
- Another said, "I can't turn my head because of the arthritis in my neck" and several nodded weakly in agreement.
- "My knee arthritis is so bad, I can hardly move my knees," claimed another.
- "I guess that's what we pay for getting old," winced an old man.
- There was a short moment of silence....
Well, it's not too bad," said one brightly. 

"Thank God we can all still drive."

According to data compiled by the Social Security Administration:

- A man reaching age 65 today can expect to live, on average, until age 83.
- A woman turning age 65 today can expect to live, on average, until age 85.
- About one out of every four 65-year-olds today will live past age 90.
- One out of 10 will live past age 95.

The most common arthritis: OSTEOARTHRITIS


Total Joint Replacement

- A projection for the total number of hip and knee replacements by 2030 is nearly 4.5 million.
- In 2004 there were 488,000 hospital stays in U.S. hospitals for knee arthroplasty procedures, with mean length-of-stay of 3.9 days and mean cost of $13,200 per admission.
- In the same year there were 368,000 total and partial hip replacements, with mean length-of-stay of 5.0 days and mean cost of $14,500.
- Costs were $6.3 billion for knees and $5.3 billion for hips.

ELECTIVE SURGERY

- Hip and knee replacement surgeries are two of the most common and effective operations performed in the United States.
- Escalating demand is expected to continue from patients seeking improved quality of active life.
- More than 850,000 hip and knee replacements were performed in USA in 2005.

Do the numbers: (from our statistics)

- The chance of needing a joint replacement is small.
  - USA: currently, close to 1 million total joint replacements per year
  - There are 38 million people over 65 yrs. old
  - Currently, 2.6% of the population will have total joint replacement
Keep your own joints!!
- Physical Therapy/Exercise
- Medication (oral/injections)
- Optimal weight
- Optimize medical issues

Keep your own joints!!
- Continued pain
- Decreased function
- Increased deformity
- Impact on Activities of daily living

SURGERY ......
- The decision to have a total joint replacement should be a cooperative one made by the patient, family, primary care doctor/specialist, and the orthopaedic surgeon.

TOTAL JOINT REPLACEMENT
- Candidates for Surgery:
  - There are no absolute age restrictions for total joint replacements.
  - Recommendations for surgery are based on a patient’s pain and disability, and RISKS for surgery, not age.
  - Most patients who undergo total joint replacement are age 50 to 100, but orthopaedic surgeons evaluate patients individually.
  - Total hip and knee replacements have been performed successfully at all ages, from the young teenager with juvenile arthritis to the elderly patient with degenerative arthritis.

How Well Do These Joints Do?
- Soriali E, Mouttet A, Mordasini P, Catonné Y.
  - High 10-year survival rate with an anatomic cementless stem.

Total Hip Survivorship 100% 10 yr
Twenty-three-year outcome of the porous coated anatomic total hip replacement: a concise follow-up of a previous report.

- At a mean of twenty-three years of follow-up, analysis revealed a survival rate of 83% with revision for any reason as the end point

Loughead JM, O'Connor PA, Charron K, Rorabeck

Results of contemporary Total Knee Arthroplasty

- 2% failure at 15 year
  - Long-term followup of anatomic graduated components posterior cruciate retaining total knee replacement.
  - Ritter MA, Berend ME, Meding JB, Kneeling EH, Faris PM, Crites BM.

- 9% failure at 23 years
  - Total condylar knee arthroplasty: a long-term followup.
  - Pavone V, Buttrill P, Fiskari S, Scutari TP.

“JOINT REPLACEMENTSurgery IN ELDERLY PATIENTS WITH SEVERE OSTEOARTHRITIS OF HIP OR KNEE”

Hamel et al, Archives of Internal Med 2008

- 65 yrs or older
- “took several weeks to recover”
- Experienced excellent long term outcomes
- Doctors often do NOT discuss joint replacement with elderly patients that may benefit from surgery.

“Keep your joint as long as you can!!”

- Total hip survival at 15-20 years is 80% -93%
- Total knee survival at 15-20 yrs is about 80 to 90%
- That mean need to revise the joint:
  - All or a part
  - 50% of revision knees were in first 5 year
- THE YOUNGER YOU ARE THE MORE LIKELY A REVISION

WHY??????????????

A closer look….

Steps in a day

- Average person: 2-3 miles per day or 4000 to 6000 steps per day just live. (Average stride=2.5 feet)
- X 365 days = 730 - 1,095 miles per year
- X 5 yrs = 3,660 - 5,475 miles
- X10yrs= 7,300 - 10,950 miles
- X20yrs= 14,600 - 21,900 miles

Sac to NYC=2,820 miles

ELECTIVE PROCEDURE!!!!

Wish to optimize medical problems

- Medical clearance
- Dental exam with
- Routine blood/urine
- Chest xray

Wish to optimize medical problems

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- Dental exam with
- Routine blood/urine
- Chest xray
Need to tune up everything!!
- Hypertension
- Diabetes
- Heart problems
- Kidney disease
- Immunocompromise

“Prehabilitation before total knee arthroplasty increases strength and function in older adults with severe osteoarthritis.”
- Short term (4-8 weeks) of prehabilitation was effective for increasing strength and function for individuals with severe OA.
- Prehabilitation before TKA may contribute to improved recovery after surgery

Possible Complications of surgery:
- Infection: national rate 1-2 % perioperative
- Blood loss and transfusion about 1-20%
- Neuro vascular injury between 1-3%
- Blood clots 1-20%
- Pulmonary embolism next slide
- Fracture 5%
- Limb length discrepancy <10%
- Dislocation of hip 0.5-7%

Deep Venous Thrombosis
- Without prophylaxis: 40-60% Fatal PE 0.5 - 2 %
- With prophylaxis 3% to 30% Fatal PE <0.5%

Increased Risk: Infection
- Uncontrolled diabetes (6 X)
- Renal Failure (40% of patients)
- Obesity (morbid obesity about 13x in one study)
- Dental/ Periodontal disease
- Malnutrition
- Immunocompromise
- Rheumatoid disease
- Transplant
- HIV

People who are overweight or obese report doctor-diagnosed arthritis more often than people with a lower body mass index (BMI).
- 16.4% of under/normal weight adults report doctor-diagnosed arthritis.
  MMWR 2010;59(39):1261-1265. [Data Source: 2007-2009 NHIS]
- 21.4% of overweight and 31.1% of obese Americans report doctor-diagnosed arthritis.
  MMWR 2010;59(39):1261-1265. [Data Source: 2007-2009 NHIS]
- Weight loss of as little as 11 pounds reduces the risk of developing knee osteoarthritis among women by 50%.
Bilateral Total Joint Replacements

- Compared with staged bilateral or unilateral total knee replacement, simultaneous bilateral total knee replacement carries a higher risk of serious cardiac complications, pulmonary complications, and mortality. (large pt population)
- Longer rehab
- Longer hospitl stay
- Increased risk transfusion

Bilateral Total Hip Arthroplasty

- Increase hospital stay
- Increased cost
- Under 70 years
- Increased risk of transfusion
- Longer rehab

Recent Advances Hips:

- Ceramic bearings for hip
- Oxidized Zirconium
- Highly crosslinked polyethylene
- Smaller Hip designs

Recent Advances Knees

- Oxidized Zirconium (allergy)
- Modular implants
- More sizes

Recovery

- Physical therapy
- Good attitude and support (depression)
- Up to three months to begin to feel normal
- Continue to improved function up to 12 months post operative

I love my patients……so…. a few things I try to remind them…. 

- Keep learning. Learn more about the computer, crafts, gardening, whatever. Never let the brain idle. “An idle mind is the devil’s workshop.” And the devil’s name is Alzheimer’s.
- Enjoy the simple things.
- Laugh often, long and loud. Laugh until you gasp for breath.
TAKE CARE OF YOURSELF!!

• Surround yourself with what you love, whether it’s family, pets, keepsakes, music, plants, hobbies, whatever.

• Cherish your health: If it is good, preserve it. If it is unstable, improve it. If it is beyond what you can improve, get help.

Thank you!!!

• Questions?

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