

TEAMING UP WITH ORTHOPEDICS - PROGRAMMING CONSIDERATIONS AFTER TOTAL JOINT REPLACEMENT

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Dezi Zevin PA-C, is a personal trainer and certified health and wellness coach who has also been in clinical practice as a physician assistant for 18 years.

Zevin also has three years of experience working in total joint replacement as a physician assistant and three years of experience working in bariatrics as a physician assistant. After working in bariatric medicine, where she helped coach patients through their weight loss journey, she developed a focused interest in weight loss and health management. It was during this time that she used her passion to develop products to help her patients lose weight. She is the co-inventor of Portion8™ products, co-author of the *Portion8 Living Cookbook* and co-founder and former co-owner of BariWare®, LLC, a company that develops products that help people live healthier lives and achieve greater success with their weight loss goals.

JENNIFER KHONSARI PA-C, MS



Jennifer Khonsari is a board certified Physician Assistant with nearly two decades of experience in orthopaedic surgery. She obtained her Bachelor of Science with certification in Physician Assisting from D'Youville College, in Buffalo NY. Jennifer received her Masters degree in Orthopaedic Surgery from the University of Nebraska College of Medicine.

Jennifer's expertise is focused in Total Joint Arthroplasty, Sports Medicine and Trauma.

TOTAL JOINT REPLACEMENT DATA


- ❖ Total Joint Replacement Surgery is currently one of the most performed elective surgical procedures in the United States today.
- ❖ The American Academy of Orthopedic Surgeons predicts that Total Knee Replacement and Total Hip Replacement procedures will increase by 189% and 171% respectively by 2030.
- ❖ The increases in elective total joint procedures coupled with the ever-changing insurance environment create an opportunity for the Medical Fitness Practitioner (MFP) to partner with Medical and Physical Therapy providers.

(AAOS, 2018) https://aaos-annualmeeting-presskit.org/2018/research-news/sloan_tjr/

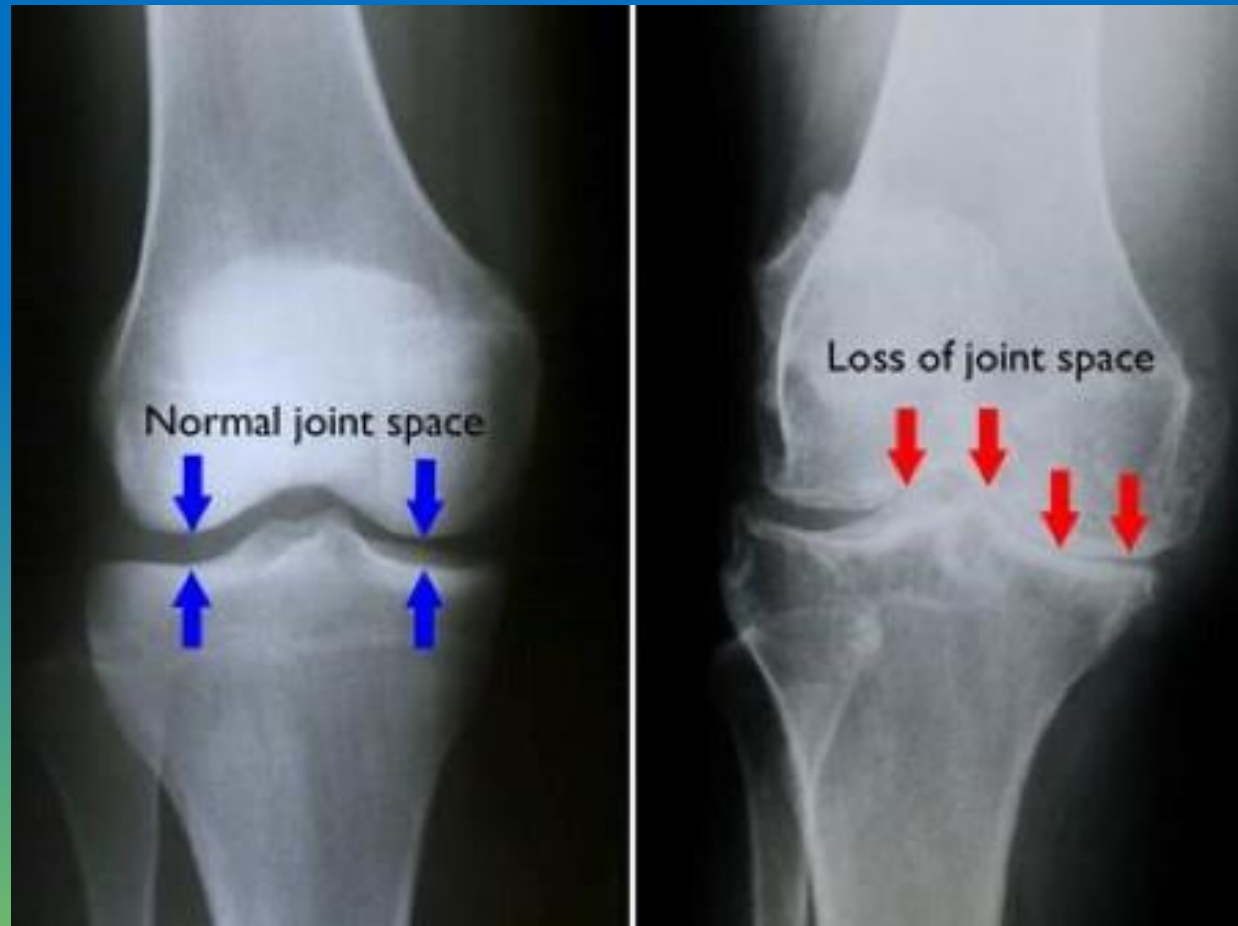
TYPES OF TOTAL JOINT REPLACEMENT

- ❖ Most common:
 - Total Knee Arthroplasty
 - Total Hip Arthroplasty
 - ❖ Less Common:
 - Total Shoulder Arthroplasty
 - Ankle, wrist, elbow
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CAUSES THAT LEAD TO TJR

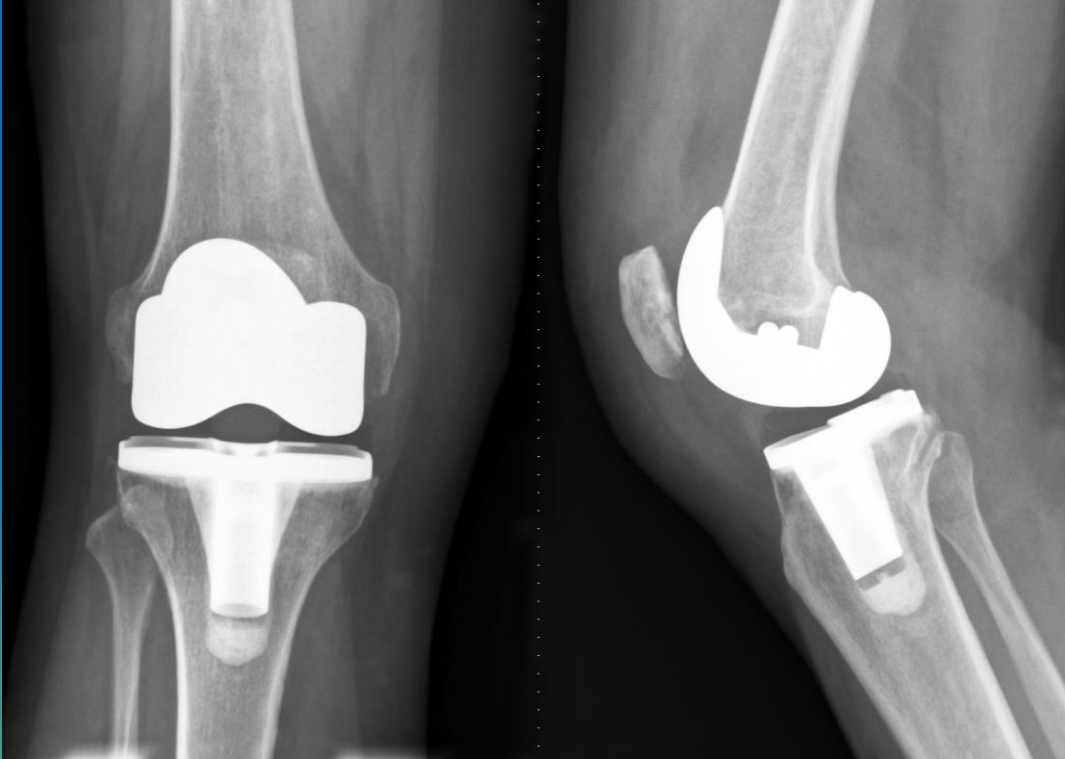
- ❖ Osteoarthritis
 - ❖ Rheumatoid Arthritis
 - ❖ Post-Traumatic Degenerative Joint Disease
 - ❖ Other Pathological Conditions (fractures, AVN and obesity)
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KNEE ARTHRITIS



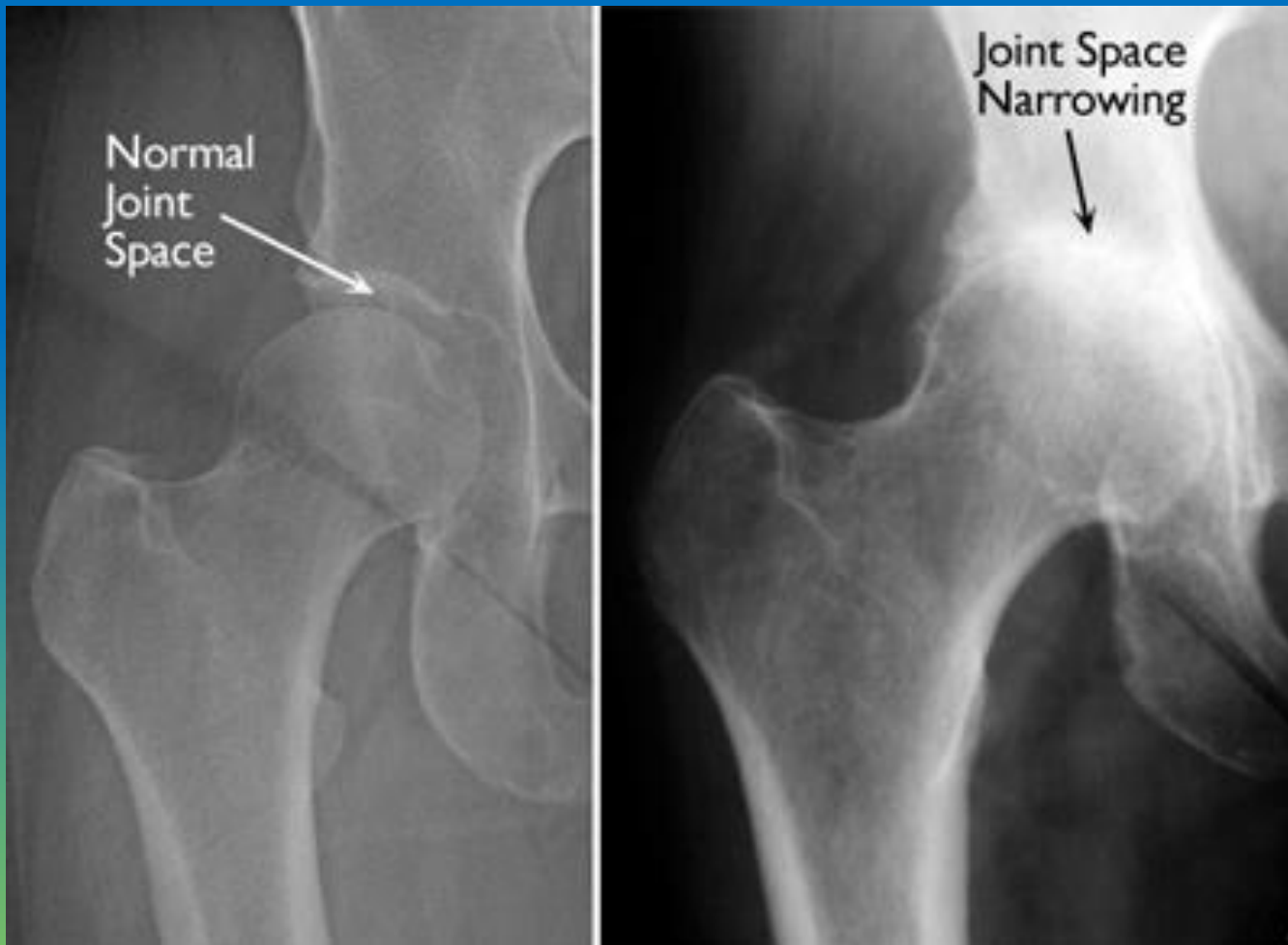
<https://orthoinfo.aaos.org/en/diseases--conditions/arthritis-of-the-knee/>

TOTAL KNEE ARTHROPLASTY



<https://www.verywellhealth.com/total-knee-replacement-what-you-need-to-know-2552264>

HIP ARTHRITIS

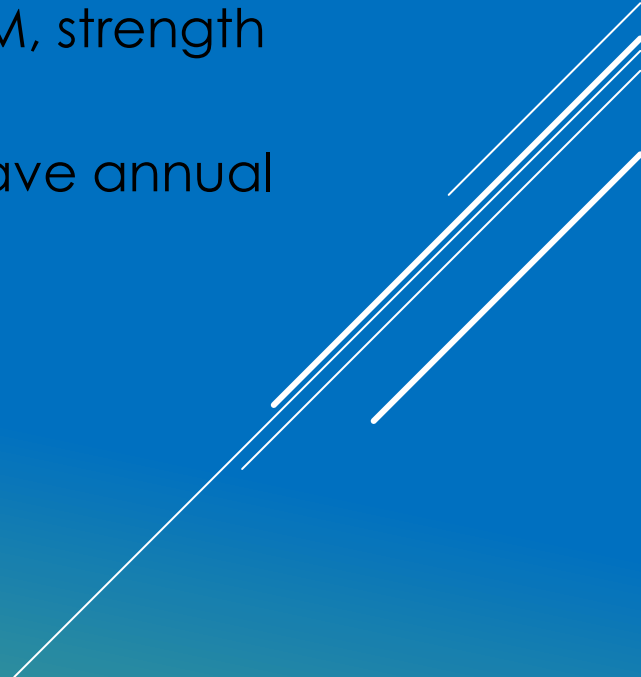


TOTAL HIP ARTHROPLASTY



<http://bristolhipsurgeon.co.uk/total-hip-replacement/>


POST-OP CARE

- ❖ Patients follow up with their orthopedic at 2 weeks, 6 weeks and routinely from there depending on the patient's progress.
 - ❖ Physical therapy is initiated in the hospital on day 1 and are either sent to a rehab facility or are sent home with home physical therapy. They will transition to outpatient physical therapy where they continue to work on ROM, strength and balance.
 - ❖ After they complete their initial follow up care, they continue to have annual visits with their orthopedic to monitor their prosthetics.
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PT X

2-weeks post op TKA
Exercised regularly
prior to surgery

TOTAL JOINT REPLACEMENT COMPLICATIONS

- ❖ Peri-surgical complications can include:
 - infection,
 - wound healing problems,
 - intra-operative fracture,
 - nerve injury,
 - increased risk of developing a blood clot.
 - ❖ Complications can continue to occur long after your surgery and might include:
 - Hip dislocations
 - Late infection
 - Loosening of the prosthetic
 - Increased risk of additional surgeries
 - increased risk of developing a blood clot.
- 



WHERE DO YOU FIT IN TO THIS PICTURE?

TOTAL JOINT REPLACEMENT PRE-OP

Physical Therapist Management of Total Knee Arthroplasty

- (a) Higher BMI is associated with more postoperative complications and worse postoperative outcomes.
- (b) Depression is associated with worse postoperative outcomes.
- (c) Preoperative ROM is positively associated with postoperative ROM but has minimal, if any, effect on physical function and quality of life.
- (d) Preoperative physical function is positively associated with postoperative physical function.
- (e) Preoperative strength is positively associated with postoperative physical function.

TOTAL JOINT REPLACEMENT PRE-OP

BMI

A review of several publications demonstrated the rate of TJA complications due to obesity. Compared to patients with a BMI <30:

- ❖ Obese patients (BMI >30) were 1.7x more likely to have complications
 - Patients with a BMI >35 are 2.2x more likely to have complications.
 - Patients with a BMI >40 are 3.7x more likely to have complications.
 - Patients with a BMI >50 are 21x more likely to have complications.

1.Liu, W., *et al.* (2015). The influence of obesity on primary total hip arthroplasty outcomes: A meta-analysis of prospective cohort studies. *Orthop Traumatol Surg Res.* 101(3): 289-96. doi:10.1016/j.otsr.2015.01.011

2.Kopp, S., *et al.* (2015). The Impact of Anesthetic Management on Surgical Site Infections in Patients Undergoing Total Knee or Total Hip Arthroplasty. *Anesth Analg.* 121(5): 1215-21. doi: 10.1213/ANE.0000000000000956

3.Malinzak, R., *et al.* (2009, July 15). Morbidly obese, diabetic, younger, and unilateral joint arthroplasty patients have elevated total joint arthroplasty infection rates. *J Arthroplasty.* 24(6 Suppl): 84-8. doi: 10.1016/j.arth.2009.05.016

PERSONAL TRAINING BENEFITS PREOPERATIVELY

Although most patients will be sent to physical therapy for formal evaluation and pre-op home exercise program, there is an opportunity to work with the orthopedic team to help optimize a patient pre-operatively.

There's a trend of orthopedic surgeons not performing surgery on those who's BMI is over 40 AND;



PRE-OP EXERCISE

Effect of preoperative exercise on postoperative mobility in obese total joint replacement patients

- ❖ Study included 207 patients with a BMI > 30kg/m
- ❖ Fewer exercise patients, 6.8%, required the assistance of ≥2 caregivers for mobility on postoperative day 1 vs 17.4% for non-exercisers.
- ❖ Fifty-four percent of patients participating in preoperative exercise were discharged home vs 46% who did not participate in exercise.
- ❖ Conclusion: "A preoperative exercise program can improve postoperative functional mobility and increase the likelihood of discharge home in total joint replacement patients with a BMI of ≥30 kg/m(2)."

PRE-OP EXERCISE

Effect of preoperative exercise on measures of functional status in men and women undergoing total hip and knee arthroplasty

- ❖ 108 men and women underwent a 6-week exercise program prior to THA or TKA vs a control who had a 6-week education program
- ❖ Conclusion: A 6-week presurgical exercise program can safely improve preoperative functional status and muscle strength levels in persons undergoing THA. Additionally, **exercise participation prior to total joint arthroplasty dramatically reduces the odds of inpatient rehabilitation.**

<https://pubmed.ncbi.nlm.nih.gov/17013852/>

TOTAL JOINT REPLACEMENT POST-OP

Total hip arthroplasty outcomes in morbidly obese patients
A systematic review

- ❖ Eight studies were included in this review.
- ❖ There were 66,238 THAs in morbidly obese patients
 - Revision Rate 7.99%
- ❖ There were 705,619 THAs in patients with a BMI < 30.
 - Revision Rate 2.75% in the non-obese controls.

****The functional outcome was at least comparable to non-obese patients.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6174856/#:~:text=There%20were%2066%2C238%20THAs%20in%20morbidly%20obese%20patients,outcome%20was%20at%20least%20comparable%20to%20non-obese%20patients.>

EXERCISE CONSIDERATIONS

- ❖ Pre-op

- ❖ Goals:

- ❖ Weight loss,
 - ❖ Optimize strength
 - ❖ Flexibility

- ❖ Post-op


- ❖ Hand off from the physical therapist and guidance from the orthopedic surgeon.
 - ❖ Continue to work on strength, flexibility and balance!
 - ❖ TJR – No pressure on anterior knee, no high impact
 - ❖ THR – hip flexion with Internal rotation is contraindication, no running or high impact
 - ❖ Conditioning is important – clients ward off from exercise due to feeling apprehensive or they feel like they did PT and that's all

- ❖ EVERY PATIENT/CLIENT IS DIFFERENT

CERTIFICATION OPPORTUNITIES

- ❖ TRAINING PRE-TOTAL JOINT ARTHROPLASTY
 - ❖ TRAINING POST-TOTAL JOINT ARTHROPLASTY
 - ❖ WEIGHT MANAGEMENT
 - ❖ INSURANCE COVERAGE POSSIBILITY
 - ❖ GROW YOUR BUSINESS
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BUSINESS BENEFITS

- ❖ POSSIBLE INSURANCE REIMBURSEMENT; WHAT TO KNOW
 - ❖ REFERRAL NETWORKS
 - ❖ GROW YOUR BUSINESS
 - ❖ BUILDING RELATIONSHIPS WITH ORTHOPEDIC PRACTICES AS WELL AS PHYSICAL THERAPY PRACTICES
 - ❖ FEE SCHEDULE
- 

Dr. Vladimir Alexander has over two decades of orthopedic experience and is the founding partner of Alexander Orthopaedic Associates. He's also the founder of the AEC Learning Center, a training facility for the education of physicians on the latest surgical techniques. He is board-certified and recertified by the American Board of Orthopaedic Surgery.

Dr. Alexander specializes in disorders and treatments of the major, large joints: hip, knee and shoulder. He is one of the few surgeons to perform total joint replacement and Birmingham Hip Resurfacing surgeries on an outpatient basis.

Dr. Alexander graduated cum laude from John Carroll University and earned his medical degree from The Ohio State University College of Medicine with honors in orthopedic surgery. He completed his surgical internship and orthopedic surgery residency at The Mt. Sinai Medical Center in Cleveland. He served as Chief Resident of The Division of Orthopaedic Surgery at The University of Alabama Hospitals in Birmingham.

At the completion of his residency, Dr. Alexander obtained additional hand and upper extremity training at The Cleveland Orthopaedic and Spine Hospital, an affiliate of The Cleveland Clinic Foundation.

An expert in his field, Dr. Alexander has conducted orthopedic surgery presentations and lectures across the country. He has also authored and co-authored numerous articles.

Dr. Alexander is an orthopedic device and implant consultant for Smith & Nephew, Biomet, and Ortho Development Corporation. He is certified in Advanced Trauma Life Support (ATLS) and Advanced Cardiac Life Support (ACLS). Dr. Alexander resides in St. Petersburg with his wife and children.



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M.D.**

**JOINT REPLACEMENT,
ARTHROSCOPY, SPORTS
MEDICINE**



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