INTRODUCTION: The length of hospital stay after knee and hip replacement surgery has been steadily decreasing over the last three decades. There have been a variety of factors influencing this trend. Improvements in surgical technique, pain management and implant design have helped make earlier hospital discharge possible. Medical economic forces have put pressure on all parties to decrease the costs. The result has been a gradual reduction in hospital length of stay that has until recently plateaued at three nights after knee replacement surgery and two nights after hip replacement surgery.

RECENT HOSPITAL STAY TRENDS: In the last couple of years there has been a new push to further shorten the length of hospital stay. Outpatient (day of surgery discharge) knee and hip replacement surgery has become possible in fit, healthy, motivated patients. A one to two night hospital stay has become the norm for many others. Reasons for this recent shortened stay include:

1. **SURGICAL TECHNIQUE IMPROVEMENT:** Surgical techniques that employ more minimally invasive / muscle sparing principles have continued to evolve. In knee replacement surgery, the "minimally invasive" quadriceps muscle sparing surgical approach allows for immediate return of quad muscle function thus allowing the patient to begin mobilization and therapy the day of surgery. In hip replacement surgery, muscle-protecting techniques, now common in both the anterior and posterior surgical approaches, have had similar effects on early mobilization.

2. **IMPLANT DESIGN IMPROVEMENTS:** Hip and knee implant designs continue to evolve. Better anatomic designs help the patient regain joint function more quickly.

3. **PAIN MANAGEMENT ADVANCES:** Improvements in pain management have made patients much more comfortable during the first 24-48 hours after surgery. A major advance in pain management has been the development of long acting local anesthetics that can be injected directly into the joint to effectively "numb" it from the inside out. Exparel (bupivacaine), a newly developed local anesthetic with slow release properties that is injected into
the joint during the operative procedure, has been shown to be effective for up to 48 to 72 hours after surgery. The ability to “numb” the joint for 48-72 hours without interfering with muscle function is one of the major reasons immediate mobilization of the patient and early hospital discharge has become possible. Previous commonly utilized sciatic and femoral nerve blocks that are effective at “numbing” the leg, but simultaneously “paralyze” it for up to 24 hours thus delaying mobilization, have been abandoned (in some cases a sensory only femoral nerve block that does not “paralyze” the muscle is still utilized).

4. MEDICAL ECONOMIC FACTORS: As the cost of medicine has escalated, medical economic forces have put increasing pressure on all parties to cut costs by shortening the length of hospital stay. These economic factors have motivated hospitals and outpatient surgical facilities (who are experiencing decreased reimbursement for hip and knee replacement procedures), surgeons, the physical therapy team, and even patients (who are experiencing increasing out of pocket expenses) to “find a way” to make short hospital stay or even outpatient replacement surgery possible.

5. HOME HEALTH CARE IMPROVEMENT: Home health care has dramatically improved in recent years. The ability to provide quality physical therapy at home decreases the necessity of staying in the hospital to obtain such services. Nurses caring for patients at home have become increasingly experienced thus more able to recognize any early potential problems or complications post op. These factors have increased the successfulness of hip and knee replacement surgery without increasing the risks of short hospital stay or outpatient surgery.

PATIENT ADVANTAGES: There are advantages to the patient on a short hospital stay or outpatient surgery timeline after knee and hip replacement surgery:

1. RAPID MOBILIZATION: A big advantage of an early discharge to home after knee and hip replacement surgery is the natural increase in mobilization demonstrated by patients at home vs. those recovering in a hospital bed. Patients at home spend less time in bed and more time up in a chair, walking and “doing for themselves”. All of which is a form of rehab and is arguably just as important as formal physical therapy.

2. DECREASED COMPLICATIONS: All hospitals, but especially Baptist Health Louisville (who by volume is the 8th leading joint replacement hospital in the USA), have made great efforts and strides to reduce hospital related problems and complications and have done so with considerable success. Even still, hospitals are large facilities with many employees required to successfully deliver the needed care to all patients. And by nature, many of those patients are sick. The safest place to recover from surgery so as to minimize exposure to any number of potential issues is at home. I want to be clear that I say this not as a scare tactic regarding in-hospital care. Our modern hospitals, (especially Baptist Health Louisville) do a great job
avoiding hospital related problems. Still, the sooner one can safely be discharged home, the safer one is.

3. **DECREASED OUT OF POCKET PATIENT EXPENSES:** Many undergoing joint replacement surgery now have health insurance coverage that requires out of pocket expenses to the patient to be calculated as a percentage of overall costs. For those patients, the lower the cost, the less such patients need pay. Early hospital discharge can often keep these costs to a minimum.

**PATIENT REQUIREMENTS FOR EARLY DISCHARGE:** Patient requirement for early discharge home include:

1. **HELP AT HOME:** Though hip and knee replacement patients become independent and are able to take care of themselves quickly, for the first few days help at home is needed just for routine personal care issues and safety.

2. **PATIENT HEALTH AND FITNESS:** In general, good overall health and fitness is required for early safe discharge after major joint replacement surgery. Those with significant health issues or with increased risks of complications will be best served with a traditional 2-3 night hospital stay.

3. **HOME ENVIRONMENT:** Many patients considering early discharge to home after joint replacement surgery have concerns regarding the ergonomics of their home environment. Of particular concern is the presence of steps that need be navigated at home. Though a patient fresh post op after hip and knee replacement surgery may not be up to repetitively dealing with stairs, a modest amount of stair climbing is both taught by the therapy team prior to discharge and can be dealt with readily by the patient.

**CONCLUSION:** Short hospital stay and outpatient hip and knee replacement surgery are becoming increasingly common. With careful patient selection, a skillful muscle protecting surgical procedure, modern pain management and cutting edge home health care, this modern approach is proving to be both safe and beneficial to the patient.