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Orthopedics This Week

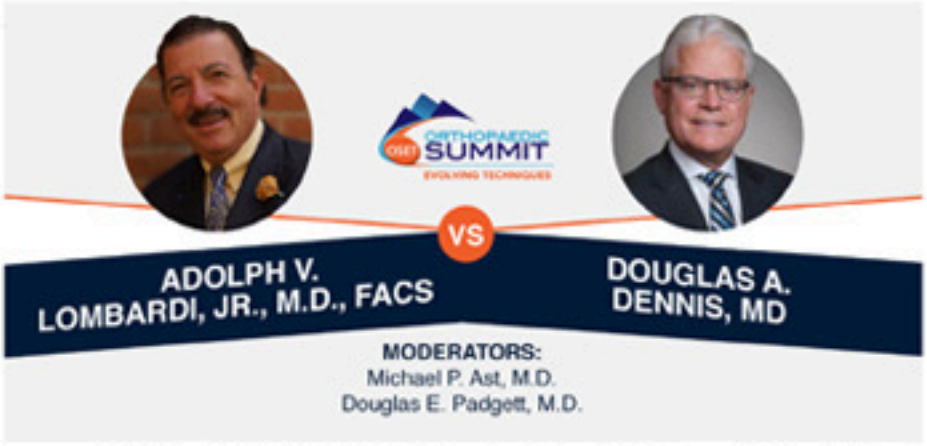
Too Much, Too Fast for Same Day TKA? Lombardi v Dennis

BY KIM DELMONICO

The following debate took place this past December at the 2018 Orthopaedic Summit of Evolving Technologies in Las Vegas.

The Topic: Same Day Total Knee Replacement Versus 'The Classic'

Speaking in favor of same day total knee replacement (TKR) surgery was world renowned, Athens, Ohio-based surgeon Adolph V. Lombardi, Jr., M.D., F.A.C.S. According to Dr. Lombardi, "I've Been Doing It For Years! My Patients Love It!" Opposing Dr. Lombardi is one of the top 25 orthopedic surgeons in the United States, Denver, Colorado-based Douglas A. Dennis, M.D. In response to Dr. Lombardi, Dr. Dennis responded by saying, "Are You Crazy?!?! My Patients Are Well Cared For" Moderating this debate is Michael P. Ast, M.D. and Douglas E. Padgett, M.D.



Adolph V. Lombardi, Jr., M.D., F.A.C.S. and Douglas A. Dennis, M.D.; Courtesy of Orthopaedic Summit

Dr. Lombardi: I've been doing same day total joint for years and supposedly my patients love it. But, let's start with how do we decide whether or not you're going to be done as an outpatient?

Does the patient have an ongoing medical issue that cannot be optimized? If the answer is "yes," postpone and optimize the patient. If it's "no," do they have organ failure? If they have organ failure, they have to be done at the hospital. If they don't, they can be done at a skilled facility. Do they have support mechanisms at home? That's how we decide.

We started in 2013. Through the end of 2017, we've done 6,000 hip and knee arthroplasties in 4,744 patients. Probably by the end of this year, we'll have another 1,200 to add to this list. There were 1,765 partial knees. There were about a little over 2,000 primary knees, 1,880 hips, and yes, we did some revision hips and knees. There were 47% males and 53% females, up to 90 years of age, and BMIs [body mass index] up to 66.

We have a unit that allows overnight stays. We've had 19 patients transferred to an acute hospital and 346 or 5.8% of them stayed overnight; 2.3% of those were for convenience because they were two hours away and later in the day. Then there were 3.8% that stayed or were transferred including that 19 and 228 and mostly what you see is respiratory issues and some of those patients were OSA [obstructive sleep apnea] patients. There was some nausea, some urinary retention, and a smattering of other issues for why they stay.

About 50% of the patients had at least one major comorbidity, which translates to a little bit higher risk for staying overnight: 5% vs 2%. You see nothing really out of the ordinary or really high rates.

What about the complications within 48 hours? Remember, everyone who's done within my specialty hospital goes home within 24 hours. If I operate on them at two in the afternoon, they are home the next day at two.

Just looking at the surgery center, there were 1% that had some sort of complication (that again includes the 19 patients that were transferred to the acute facility), 11 in hips, 18 partial knees, and 34 knees.

Unplanned care after 48 hours within 90 days was 1.3%. These numbers are very similar to the numbers that are specialty hospitals.

Surgical complications requiring a treatment. There were 74 of these. A lot of these were wound revisions. But we did have four patient deaths,

one from a presumed PE [pulmonary embolism], one suicide, and two cause unknown.

What about outpatient revision knee arthroplasty? We did over 88 revisions in 84 patients. The mean age was 58 and BMI of up to 56. About 62% of these had at least one major comorbidity. There were 42 that were revisions of partial knee to total knee and 46 revisions of total knees. A lot of these were for instability and poly wear.

Overnight stays: 76 were discharged the same day. None were transferred to an acute hospital. Eleven stayed overnight: 4 for convenience. Seven stayed for medical reasons. OSA and respiratory issues and nausea as the higher numbers.

Complications within 90 days, no major complication within the first 48 hours. One ER visit readmission due to ileus. No patient deaths within 90 days. No surgical complications or re-operations within 90 days.

In the medically-optimized patient, despite large numbers of comorbidities, outpatient total joint is associated with a low rate of medical and surgical complications. The presence of major comorbidity was not associated with need for extended observation and patient education, medical optimization, and a multi-modal program are what's needed to mitigate the side effects of narcotic use and to allow patients to go through this in a very safe fashion.

Dr. Dennis: I just think you've been doing too much outpatient surgery.

Many small studies have demonstrated that outpatient total knee can be done safely on a selected group of patients. But just because it can be done…is it the best treatment method for the majority of our patients?

If 500 outpatient total knees are done and performed safely and just one dies or has a major complication and if they were in a hospital and emergency treatment was administered more promptly, lessening the magnitude of the complication, is it worth it?

Many ASCs [ambulatory surgery centers] are not on hospital campuses. Is there an intensivist on site at the ASC? How long will it take for the ambulance to arrive for patient transport to an acute care hospital?

Numerous reports show similar complication and readmission rates between outpatient and inpatient cohorts. But if you look at these studies, the cohorts are rarely matched. If studies were done of matched cohorts,

inpatient vs. outpatient, would the complications and readmission rates be the same?

A lot about patient total knee arthroplasty data has involved unicompartmental knee arthroplasty. Will similar data be obtained with outpatient total knee arthroplasty, particularly those patients of Medicare age?

When you're comparing variables of fairly similar incidents, very large cohort size is required to detect small differences. Are the ideal candidates for outpatient surgery clearly identified in studies involving thousands of patients? Remember, if you're just going to do a power analysis on a variable and to detect a statistical change from 0.2 to 0.4%, 9,425 subjects are required. Are there multiple studies with large numbers of patients available for us to make this decision?

Not all the outpatient data is good. Craig Della Valle looked at the NSQIP [National Surgical Quality Improvement Program] database and 1,236 outpatient studies and matched it vs. inpatient cohorts and overall, the overall adverse events were similar. There were more returns to the operating room in the outpatient cohort.

In another recent study with 4,291 outpatients, the data was adjusted for age, gender, and Charlson comorbidity index. They found an increased incidence in the outpatient cohorts of revision knee arthroplasty, return for incision and drainage, deep vein thrombosis, closed manipulation, as well as acute renal failure in the outpatient cohort.

Some outpatient total knee protocols essentially "send the hospital home with patient," visiting nurses, home health aides, PT. Are they really saving dollars are just doing cost-shifting?

Many outpatient surgical centers are physician-owned. Will surgeons potentially be economically incentivized to take patients to an outpatient surgical center since they are an owner? Will some surgeon-owner make a poor decision regarding patient selection due to the secondary economic benefits that they may receive and an adverse event occur?

I polled my anesthesiologists, "What are your worries?" They were worried about falls from lingering anesthesia effects, urinary retention leading to readmission, cardiac arrhythmia, respiratory depression was high on their list (as Adolph has seen in his data), as well as pain control issues.

If we look at postoperative respiratory depression, many of these people have obstructive sleep apnea.

And if you look at the reported incidents, about 23% in females and nearly half the males. And we know the risk of respiratory complications in OSA patients consuming opioids in the early postoperative period is substantial. Risks: hypoxia, pneumonia, and death in those patients. Post-op urinary retention. If undiagnosed and not treated in a timely fashion, we all know this can lead to permanent bladder damage, hydronephrosis, chronic UTIs, etc.

I know outpatient surgery can be done safely in selected patients. Larger studies, however, are required to clearly define proper patient selection and safety.

My fears are major complications at an ASC located distant from an acute care hospital, the effect of surgeon ownership possibly leading to poor patient selection, and increased resources are required to do this, and many surgeons don't have that to provide the extensive preoperative education as well as the close post-operative surveillance that is necessary to ensure success in these patients and for this reason probably not yet ready for widespread use.

Moderator: Thanks, Doug. Adolph, one-minute rebuttal.

Dr. Lombardi: In 2003, I decided that we were going to move from a downtown hospital to a specialty hospital. We built a specialty hospital out in the community and they don't have an ICU. From 2003, I've done 95% of my surgeries at a specialty hospital that doesn't have an ICU. It does have an intensivist. I understand transferring a patient to an acute care hospital. That hospital is about 5 to 8 miles away, they come pretty quickly when you call them whether we're calling from the hospital or from the surgery center.

I go on my rounds the next morning on my Medicare patients, they're up, talking, eating, ready to go home. You wonder why they really had to spend the night. And we also looked at one year's data and we hadn't transfused a single knee patient in that whole year. And we transfused only two women who presented for hips and their hemoglobin was less than 12.

You're putting your head in the sand if you think outpatient surgery is not here now and CMS [Centers for Medicare and Medicaid Services] is going to change the rule come next year. They're all going to be outpatients.

Dr. Dennis: I agree a lot with what Adolph said. He's a highly skilled surgeon, he has an unbelievable staff that works with him. He has really created a wonderful center. I'm not sure everybody can go ahead and duplicate some of the numbers he is showing.

I understand this is coming. I'm starting to do it. Typically, my first two cases of every day I'm doing in a hospital setting are going home that day. We pre-select them. But I still don't think that we have all of the preoperative evaluations done in a scientific way to really know which ones are okay and which ones are not. If it's one in a million and you're the one, that still every bit as devastating.

Moderator: So, Adolph, you know we've got historically 30-day, 90-day morbidity, mortality data. A lot of that's old. Do you think that that's still valid or do you think we're doing something different that really changes the way that we are looking at how patients recover from joint replacement?

Dr. Lombardi: We are doing something different. We heard all those talks about being preemptive and making sure the patient is optimized; that's the difference that I'm seeing.

Moderator: Doug, when you look at the sentinel events that occur in joint replacement patients, it was somewhere around 48 hours. If you're going to keep people in the hospital should we really keep them between 48 and 72 to make sure that they're over that hump?

Dr. Dennis: It's what the data says. I had one patient that died who was actually in the hospital. The nurse checked her at 3 a.m., then went in and checked at 4 a.m. and she was cold and dead. That can't happen in the patients I keep overnight now because every patient has a pulse oximeter on their finger and it gives me a little bit of comfort. ♦