

Anterior Approach for Total Hip Arthroplasty

VALUE ANALYSIS BRIEF

Value Summary

Total hip arthroplasty (THA) has long been considered one of the most successful orthopedic surgical procedures¹ with patients experiencing increased mobility, improved function, pain relief, and improved quality of life from previously incapacitating joint disease.² However, a small minority of THA patients continues to experience debilitating symptoms.² Some orthopedic surgeons have looked to change the surgical approach to address certain complications such as dislocation, inaccurate component positioning,³ or a postoperative limp.^{4,5} Many of these surgeons have looked to the Anterior Approach to improve clinical outcomes within THA.

The Anterior Approach allows the surgeon to work between the muscles and tissues without the need to release any muscles or tendons from the pelvis or femur. In the published literature, comparisons of the Anterior Approach to traditional THA approaches report the following outcomes with the Anterior Approach:

- Earlier Return to Function,^{2,7,9-11,14-18,20,26}
- Less Pain,^{1,2,16,19,21,23,24}
- Less Narcotic Usage,^{14,16,22}
- Lower Risk of Dislocation,^{2,11,14,29-32}
- More Accurate Acetabular Component Positioning,^{4,31,41}
- Shorter Length of Stay,^{1,2,11,14,16,21,22,23,29,30,44-46}
- More Likely Discharge to Home Setting.^{14,16,25}

In 2003, less than 1% of U.S. surgeons were performing the Anterior Approach.³ By 2016, approximately 34% of surgeons were performing the Anterior Approach as indicated on a survey of surgeons at the Annual Meeting of the American Association of Hip and Knee Surgeons.⁸ Dr. Joel Matta has been a pioneer in the Anterior Approach in the U.S. leading to this growth. Dr. Matta developed a specific Anterior Approach technique, which includes the use of a hana[®] table (Mizuho, OSI, CA), use of intraoperative fluoroscopy to assist with accurate component positioning, and use of

the CORAIL[®] Hip Stem with the PINNACLE[®] Acetabular Cup System.

A recent claims analysis (2016) undertaken by DePuy Synthes, examined the impact of THA using the Anterior Approach on medical resource utilization in a Medicare population.⁶ The control group consisted of matched patients at similar hospitals, regardless of surgical approach. The results of the analysis⁶ showed that patients who received the Anterior Approach (as described by Joel Matta, MD):

- Incurred 45% lower post-acute care costs than patients in the control group (\$4,139 vs. \$7,465; P<0.0001)
- Were significantly more likely than those in the control group to be discharged home (87% vs. 69%; P<0.0001).
- Had significantly lower in-hospital length of stay than those in the control cohort (2.07 vs. 2.98 days; p<0.0001).

This document seeks to describe the benefits of the Anterior Approach reported throughout the literature, and the additional cost savings and improved patient satisfaction associated with the Anterior Approach.

Unmet Need

In 2015, Centers for Medicare & Medicaid (CMS) introduced the Comprehensive Care for Joint Replacement (CJR) model. This prompted a shift where providers are now accountable to improve clinical outcomes, increase patient satisfaction, and reduce overall cost from a patient's initial hospitalization to 90 days after discharge. If hospitals incur costs beyond Medicare's reimbursement amount during the 90-day window, hospitals are responsible to pay the difference to CMS. In this value-based system, hospitals need real-world evidence that shows improved outcomes, without negatively impacting the quality of care during the initial admission and 90-day post-discharge setting.

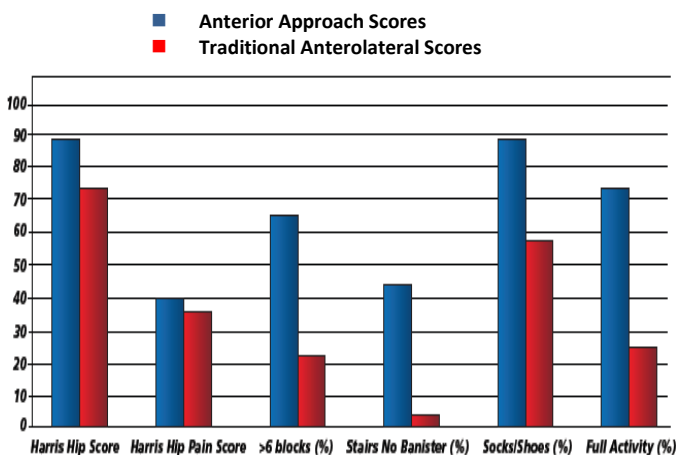
Anterior Approach Clinical Outcomes and Bundled Payment Implications

Earlier Return to Function and Less Pain

Because the Anterior Approach generally does not require the cutting of muscle, patients undergoing the direct Anterior Approach may experience less postoperative pain than patients undergoing more invasive traditional THA approaches. Several studies have shown that patients undergoing the Anterior Approach have better post-operative walking ability compared to patients undergoing either the anterolateral,^{7,17} lateral,^{18,20} or posterior approaches.^{2,9-11,14-16,26} These studies have shown that Anterior Approach patients achieve earlier return to functional activities such as walking without assistive devices, climbing stairs, driving, returning to work, and putting on socks and shoes. One or more of these functional activities were improved at two to three weeks postoperatively,^{9-11,15,16,26} six weeks postoperatively,^{2,16-19} three months postoperatively,² six months postoperatively,^{17,18,20} and one year postoperatively.^{17,18,20}

For example, Bourne and colleagues (2010) compared the clinical and functional outcomes at six weeks, six months and one-year intervals between THA patients undergoing either the Anterior Approach (n=214) or the anterolateral approach (n=259).¹⁷ At 6 weeks, the functional outcomes assessment scores were significantly better for the Anterior Approach group versus the anterolateral group across *all* of the outcomes measured (i.e., ambulation, stair climbing, ability to put on shoes and socks, etc.) (Figure 1).

Figure 1. Postoperative Outcomes at 6 Weeks



Source: Bourne et al. Poster from AAOS, New Orleans LA. March 2010

Taunton and colleagues (2017) compared functional outcomes at two weeks, eight weeks, and one-year

intervals between THA patients undergoing either the Anterior Approach (n=50) or the mini-posterior approach (n=50).²⁶ Early functional recovery was faster after the direct Anterior Approach compared to the mini-posterior approach as measured by time to: discontinue walker, discontinue all gait aids, discontinue narcotics, ascend stairs with a gait aid, and walk six blocks (Table 1).²⁶

Table 1. Postoperative Outcomes at 2 to 4 Weeks

Outcome	Anterior Approach (n=50)	Mini- Posterior Approach (n=50)	P value
Time to:			
Discontinue walker	10 days	14.5 days	P=0.01
Discontinue all gait aids	18 days	23 days	P=0.04
Discontinue narcotics	9 days	14 days	P=0.05
Ascend stairs (gait aid)	5 days	10 days	P<0.01
Walk six blocks	20.5 days	26.0 days	P=0.05

Source: Taunton et al. AAOS Meeting. San Diego CA. March 14-18, 2017.

On the other hand, a study by Reininga and colleagues (2013) comparing the restoration of physical functioning following a computer-navigated minimally invasive Anterior Approach and a conventional posterolateral approach for THA found no significant difference in walking speed (neutral results) between the Anterior Approach group and the conventional posterior approach group.⁵⁶ The authors acknowledge that this finding was not consistent with other published studies comparing these two approaches and suggest that the disparate findings of their study may be attributable to (1) using a different surgical technique for the conventional THA than the other studies and (2) the other studies may not have adjusted for differences in preoperative values which may have influenced the outcome.⁵⁶

As Anterior Approach patients recover, they are also experiencing greater pain relief,^{1,19,24} lower pain scores,^{2,16,21,23} and less narcotic usage^{14,16,22} compared to traditional THA patients. For example, a retrospective cohort study by Zawadsky and colleagues (2014) comparing early outcomes between the direct Anterior Approach (n=50) and the mini-incision posterior approach (n=50) found that Anterior Approach patients had significantly less narcotic pain medication usage at both 2-week and 6-week follow-up as well as significantly lower VAS pain scores at 2-week follow-up (Table 2).¹⁶

Table 2. Postoperative Pain Outcomes at 2 Weeks and 6 Weeks

Outcome	Anterior Approach (n=50)	Posterior Approach (n=50)	P value
2-Week Outcomes			
VAS Score	2.2	5.2	P<0.0001
Narcotic Use	30%	86%	P<0.0001
6-Week Outcomes			
VAS Score	1.4	2.6	P=0.0705*
Narcotic Use	2%	33%	P=0.2510*

Source: Zawadsky et al. J Arthroplasty. 2014 Jun;29(6):1256-60.
 *Results for 6-week VAS scores and narcotic use not statistically significant.

Similarly, a prospective cohort study by Ilchmann and colleagues (2012) comparing functional outcomes between the minimally invasive Anterior Approach (n=113) and the standard lateral transgluteal approach (n=142) found that the Anterior Approach was associated with significantly lower median VAS pain scores at 6 weeks (1.0 vs 1.5; p=0.003) and at 12 weeks (0.0 vs 1.0; p=0.010).²³

Earlier return to function and less pain are affecting patient-reported outcomes following THA procedures and have the potential to increase patient satisfaction.

Two outcomes measures commonly used for the evaluation of patients following THA procedures are the Harris Hip Score and the Western Ontario and McMaster Universities Arthritis Index (WOMAC). The Harris Hip Score is composed of four subscales: pain, function, absence of deformity, and range of motion. The WOMAC measure consists of three subscales: pain, stiffness, and physical function.

Evidence in the literature suggests that the Anterior Approach for THA has been associated with:

- Significant or greater improvements in the Harris Hip Score (from pre-operative Harris Hip Score) compared with the posterolateral,² lateral,^{20,23,24,25,27} or posterior approaches,^{12,22}
- Significantly better post-operative WOMAC scores compared with the lateral approach,²⁰
- Similar WOMAC scores compared with anterolateral approaches to THA.⁷

For example, a prospective randomized controlled study by Restrepo and colleagues (2010) comparing patients who underwent primary THA using the Anterior Approach (n=50) or the direct lateral approach (n=50) showed that mean (range) Harris Hip Scores for the Anterior Approach versus direct lateral approach were: 51.86 (34-65.5) vs. 54.95 (41.5-63.6) (p=0.06) at baseline, 93.64 (77.1-100) vs. 88.80 (65-99.7) (p=0.03) at 6 weeks, and 97.34 (93.0-99.7) vs. 97.55 (93.0-99.7) (p=0.72) at 2 years (Table 3).²⁰

Table 3 Mean Harris Hip Scores and WOMAC Scores

Outcome Measure	Anterior Approach	Lateral Approach	P-value
Harris Hip Score			
Baseline	51.86	54.95	P=0.06
6 Weeks	93.64	88.80	P=0.03
2 Years	97.34	97.55	P=0.72
WOMAC Score*			
Baseline	8.68	8.33	P=0.29
6 Weeks	4.40	9.70	P=0
2 Years	2.24	1.9	P=0.6

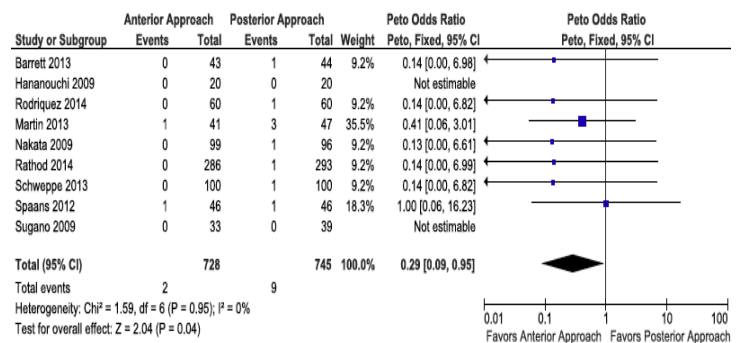
Source: Restrepo et al. J Arthroplasty 2010;25(5):671-9 e1.
 *Note: For WOMAC scores, higher scores indicate worse pain, stiffness, or physical function.

Lower Risk of Dislocation

Several studies have found that the posterior approach for THA is associated with a higher incidence of dislocation compared to the Anterior Approach.^{2,11,14,29-32} The increased incidence of dislocation may be attributed to the division of the posterior hip capsule and external rotators and acetabular component malposition during the posterior THA procedure.⁴

For example, Higgins and colleagues (2015) undertook a systematic review of the available evidence to compare clinical and surgical outcomes among patients undergoing primary THA performed by the Anterior Approach or posterior approach.²⁹ For the analysis on the *risk of dislocation*, the authors reviewed 9 clinical studies representing 728 Anterior Approach patients and 745 posterior approach patients (Figure 2).²⁹

Figure 2. Risk of Postoperative Dislocations



Source: Higgins et al. J Arthroplasty. 2015 Mar;30(3):419-34.
 Note: The solid squares denote the Peto odds ratio of each individual study, the horizontal lines represent the 95% confidence intervals (CI), and the diamond denotes the cumulative Peto odds ratio.

Overall, results of the systematic review showed there was a significant difference in the number of post-operative dislocations favoring the Anterior Approach (Peto OR: 0.29; 95% CI 0.09 to 0.95). The pooled results from these 9 studies showed 2 dislocations out of 728 (0.275%) for Anterior Approach patients and 9 dislocations out of 745 (1.208%) for posterior approach

patients which suggests that Anterior Approach patients are 4 times less likely to dislocate when compared to posterior approach patients.²⁹ It is important to note that this systematic review did include studies which found no differences in the rate of dislocation between the Anterior Approach and posterior approach.²⁹ For example, Sugano and colleagues compared postoperative outcomes following a mini-incision Anterior Approach and a mini-incision posterior approach and observed no dislocations in either group.⁵⁷ The authors acknowledge that the findings of this study may be limited by the small patient numbers in each group and the non-randomized study design.⁵⁷

Dislocation of the prosthetic joint following primary THA procedures is one of the main reasons for hospital readmission in the 90-day follow-up period.^{35,36} A recent study by Nichols and colleagues (2017) examining clinical outcomes and costs in patients undergoing primary THA for hip fracture found the most common diagnoses for readmission in the 90-day follow-up period were infection (10.7%-17.8%), dislocation of the prosthetic joint (4.5%-8.4%), and wound disruption (1.6%-1.9%).³⁵ Bozic and colleagues examined the clinical and economic burden of revision THAs and found the most common reasons for revision THAs were dislocation (22%), mechanical loosening (20%), and infection (15%).³⁶ The costs of readmission during the 90-day follow-up period are substantial. Nichols and colleagues (2016) found that readmission costs for patients undergoing primary THA accounted for approximately 22.4% of total THA costs over the 90-day episode of care.³⁷

More Accurate Acetabular Component Positioning

While one of the leading causes for dislocation in THA is inaccurate component positioning,^{31,38-40} the use of fluoroscopy with the direct Anterior Approach has been shown to increase the accuracy of component positioning.^{4,31,41}

Matta and colleagues (2005) examined the radiographic results in a consecutive series of 494 Anterior Approach patients.⁴ For this study, all of the Anterior Approach surgeries were facilitated by the radiolucent material of the hana[®] operating table. The acetabular component was inserted under fluoroscopic guidance in all patients, and the leg lengths were compared intraoperatively using radiographic imaging. The results of the study demonstrated that 90% of component inclination angles and 93% of cup anteversion angles were in the desired target range of the study.⁴

These data are consistent with other studies in the clinical literature, such as a retrospective analysis from Rathod and colleagues (2014) of 825 THA procedures.³¹ This study found that target inclination and anteversion were better achieved in the direct Anterior Approach with fluoroscopy group (98% and 97% respectively) compared to the posterior approach without fluoroscopy group (86% and 77% respectively) (Table 4).³¹

Table 4. Acetabular Component Positioning following THA

Outcome	Anterior Approach (with Fluoroscopy)	Posterior Approach (without Fluoroscopy)	P value
Achieved Target Inclination	98%	86%	P<0.01
Achieved Target Anteversion	97%	77%	P<0.01

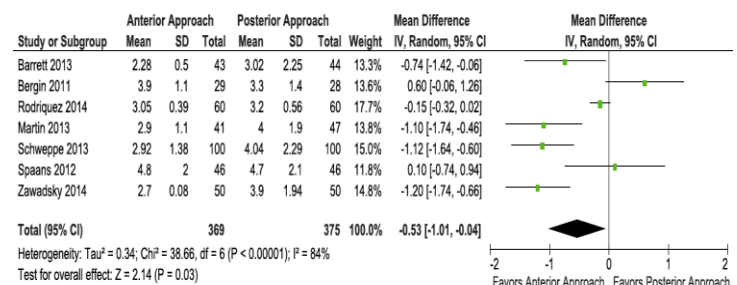
Source: Rathod et al. Clin Orthop Relat Res. 2014 Jun;472(6):1877-85.
 Note: The authors defined the target range for acetabular cup inclination as 30° to 50° and the target range for acetabular cup anteversion as 10° to 30°.

Length of Stay

The Anterior Approach for THA has been associated with a shorter length of stay compared to traditional THA approaches including the lateral approach^{21,23,44,45,46} and posterior approach.^{1,2,11,14,16,22,29,30,45} A reduction in length of stay has been correlated with an increase in patient satisfaction⁴⁹ and decreased cost.^{6,45}

First, a systematic review by Higgins and colleagues examined available evidence from published studies comparing outcomes among patients undergoing primary THA performed by either the Anterior Approach or posterior approach.²⁹ For the analysis on length of stay, the authors reviewed 7 clinical studies representing 369 Anterior Approach patients and 375 posterior approach patients (Figure 3).²⁹

Figure 3. Length of Hospital Stay (in Days)



Source: Higgins et al. J Arthroplasty. 2015 Mar;30(3):419-34.
 Note: The solid squares denote the mean difference, the horizontal lines represent the 95% confidence intervals (CI), and the diamond denotes the weighted mean difference.

The results of the systematic review showed there was a significant difference in post-operative length of stay favoring the Anterior Approach (WMD: -0.53 days; 95% CI -1.01 to 0.04 days).²⁹

A recent claims analysis (2016) undertaken by DePuy Synthes examined the impact of THA using the Anterior Approach on medical resource utilization in a Medicare population.⁶ A multiple-stage patient matching approach was implemented to maximize the similarity between Medicare patients in the Anterior Approach (as described by Joel Matta, MD) cohort (n=897) and those in the control group (n=897). The control group consisted of matched patients at similar hospitals, regardless of surgical approach. Six surgeons agreed to participate in this analysis, all of whom used the direct Anterior Approach. All Medicare Part A claims (inpatient, home health, skilled nursing, hospital outpatient) were examined from hospitalization through 90-days after the day of discharge for patients who received elective (non-fracture), primary THA between Q1 2012 and Q3 2014.

The results of the analysis showed that patients who received the Anterior Approach (as described by Joel Matta, MD) had significantly lower in-hospital length of stay than those in the control cohort (2.07 vs. 2.98 days; p<0.0001).

A recent Canadian study by Petis and colleagues (2016) examined the impact of three types of THA surgical approaches on hospital length of stay and found Anterior Approach patients averaged hospital stays of 34 hours, posterior approach patients averaged 66 hours, and lateral patients averaged 64 hours (Table 5).⁴⁵

Table 5. Length of Stay (Canada)

Outcome	Anterior Approach (n=40)	Posterior Approach (n=38)	Lateral Approach (n=40)	P-value
Length of Stay (hrs)				
Mean	33.9	65.8	64.2	p<.001
Range	24.9-98.4	29.1-171.4	30.5-144.8	p<.001

Petis and colleagues also performed a prospective, micro-costing analysis on 118 patients undergoing a THA through either an Anterior Approach, posterior approach, or lateral approach at a Canadian hospital.⁴⁵ For the Anterior Approach, the cost of the hana[®] orthopaedic table was incorporated into the analysis based on a 5-year longevity of the table.

The results of the study demonstrated that overall hospital costs (intraoperative costs and hospital stay) were significantly *less* for the Anterior Approach (\$7,300) compared to either the posterior approach (\$8,287) or lateral approach (\$7,853).⁴⁵ These results showed that the hospital reduced costs by 12% (\$987)

on each Anterior Approach case when compared to posterior cases and 7% (\$553) when compared to lateral approach cases (Table 6).⁴⁵

Table 6. Operating Room Costs and Inpatient Costs of THA Procedures (Canada)

Outcome	Anterior Approach (n=40)	Posterior Approach (n=38)	Lateral Approach (n=40)	P-value
Operating Room Costs	\$5,800	\$5,560	\$5,274	p<.001
Inpatient Costs				
LOS (hours)	34	66	64	p<.001
LOS (days)	1.42	2.75	2.67	p<.001
Cost of Inpatient Stay	\$1,500	\$2,727	\$2,579	p<.001
Medication Costs	\$94	\$89	\$91	p=0.97
Total THA Costs	\$7,300	\$8,287	\$7,853	p<.001

Source: Petis et al. J Arthroplasty. 2016 Jan;31(1):53-8. Note: All costs in 2013 Canadian Dollars. Costs presented as mean values. P-values are for 1-way, between group ANOVA.

More Likely Discharge to Home Setting

Not only is length of stay reported to be shorter with the Anterior Approach, but additional evidence shows that Anterior Approach patients are more often released directly to their homes after surgery, instead of to a rehabilitation, skilled nursing, or extended-care facility compared to the posterior approach^{14,16} or lateral approach.²⁵

Furthermore, the Medicare analysis (2016) undertaken by DePuy Synthes found that Medicare patients who received the direct Anterior Approach (as described by Joel Matta, MD) were even more likely to be discharged home, when compared to the control group (87% vs. 69%; P<0.0001) (Table 7).⁶

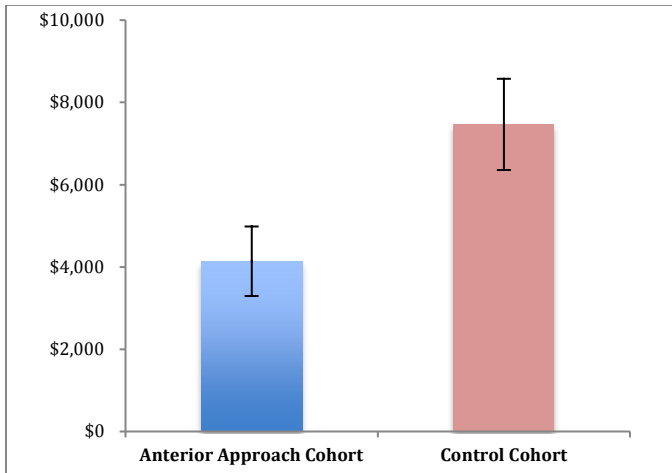
Table 7. Discharged to Home Setting following THA Procedure

Outcome	Anterior Approach (n=897)	Control Cohort (n=897)	P value
Discharge to Home or Home Health Agency After Index Surgery (Mean, 95% CI)	87.3% (85% - 89.6%)	68.7% (65.5% - 71.8%)	P<0.0001

Source: DePuy Synthes. Raynham, MA. Presentation entitled: Medical Resource Utilization and Costs for Total Hip Arthroplasty – Benchmarking the Anterior Approach in the Medicare Population. DSUS/JRC/1216/1883(1). October 2016.

These results demonstrate a consistent decrease in the need for medical resources with the Anterior Approach and can potentially provide significant cost savings to the hospital. Additionally, the results of this analysis found that Medicare patients who received the direct Anterior Approach incurred 45% lower post-acute care costs than patients in the control group (\$4,139 vs. \$7,465; P<0.0001) for a per-patient 90-day savings of \$3,326 (Figure 4).⁶

Figure 4. 90-day Post-Acute Care Total Medicare Claim Payments for Anterior Approach Patients versus Control Group Patients

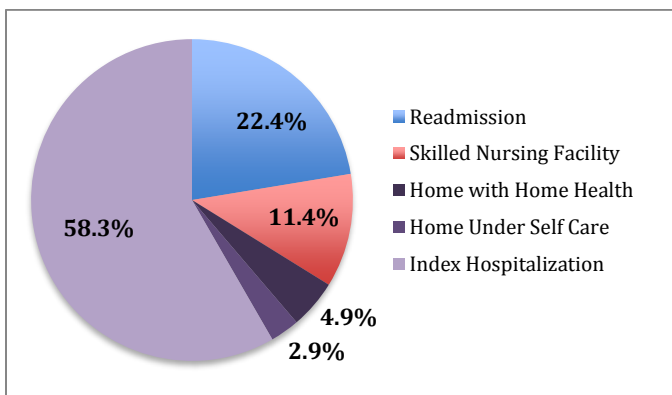


Source: DePuy Synthes. Raynham, MA. Presentation entitled: Medical Resource Utilization and Costs for Total Hip Arthroplasty – Benchmarking the Anterior Approach in the Medicare Population. DSUS/JRC/1216/1883(1). October 2016.

Notes: (1) Medicare data for primary THA between Q1 2012 and Q3 2014; (2) Costs in 2014 US dollars; (3) Adjusted (marginal) means obtained from method of recycled predictions from GEE multivariate model. (4) Anterior Approach Cohort (n=897): adjusted mean=\$4,139 (95% CI \$3,294-\$4,985). (5) Control Cohort (n=897): adjusted mean=\$7,465 (95% CI \$6,356-\$8,573). The Control Cohort consisted of matched patients at similar hospitals, regardless of surgical approach.

The economic impact of THA patients being discharged to post-acute care facilities is substantial. In particular, resource use in the post-acute care setting after joint arthroplasty will be a priority area for optimizing costs since approximately 34% of episode-of-care payments for these procedures occur post discharge (Figure 5).^{37,50}

Figure 5. Distribution of Total 90-Day Primary THA Costs by Setting of Care (U.S.)



Source: Adapted from Nichols et al. J Arthroplasty. 2016 31:1400-1406. Note: THA costs include ALL surgical approaches; Costs for the Anterior Approach versus the other approaches were not separated out in the study.

An analysis by Nichols and colleague (2016) found that the incremental increase in the 90-day costs for patients discharged to an SNF versus to the home setting under self care was \$4,486 for patients undergoing a primary THA and \$8,365 for patients undergoing a revision THA

procedure.³⁷ These findings show that medical resource use in the post-acute care setting after THA should be a top area of focus for optimizing costs in the bundled payment environment.

Patient care in the post-discharge setting may also have a significant impact on patient satisfaction. For example, an analysis by Slover (2016) examining strategies for optimizing the value of post-acute care in a bundled payment setting found that efforts to *increase* the use of home discharge and *decrease* the use of post-acute care facilities after primary THA leads to a high degree of patient satisfaction.⁵¹ Additionally, a higher cost in the post-discharge setting may have a substantial impact on the amount of out-of-pocket expense incurred by the patient depending on their primary insurance coverage, supplemental insurance, and cost-sharing benefits. For example, a 2014 report by the Kaiser Family Foundation on out-of-pocket spending among Medicare beneficiaries found that patients who received post-acute care in a skilled nursing facility (SNF) had significantly higher out-of-pocket spending on services than those who were discharged without SNF care (\$9,508 vs. \$3,645, respectively).⁵²

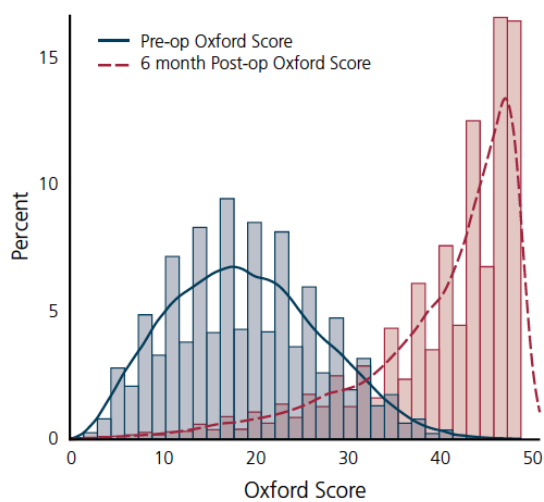
Survivorship and Patient Satisfaction of the CORAIL®/PINNACLE® Hip Construct

The Anterior Approach as described by Joel Matta, MD relies on the use of the CORAIL/PINNACLE Hip Construct from DePuy Synthes. The National Joint Registry for England, Wales, Northern Ireland, and the Isle of Man describes the CORAIL/PINNACLE Hip Construct as the most widely used construct.²⁸ Evidence from the literature has shown that patients who undergo THA with the CORAIL/PINNACLE Hip Construct have a low incidence of revision^{33,43,54}, cup migration³⁴, and stem subsidence.^{47,54,55}

Additionally, the cumulative revision rates are low in patients who undergo THA with the CORAIL/PINNACLE Hip Construct based on evidence from international registry data.^{28,42,48,53} For example, in 32,072 primary, conventional THA cases using a CORAIL Stem and a PINNACLE Cup, the Australian Orthopaedic Association National Joint Replacement Registry reported a cumulative percent revision of 2.6% (95% CI: 2.4, 2.8) at 3 years, 3.2% (95% CI: 2.9, 3.4) at 5 years, 3.8% (95% CI: 3.5, 4.1) at 7 years, and 5.0% (95% CI: 4.4, 5.8) at 10 years.⁵³ These data indicate that the construct survivorship is approximately 95% at 10 years.⁵³

Patient reported outcomes measures (PROMS) from the NJR for primary THA with the CORAIL/PINNACLE Hip Construct were assessed on surgeries done (n=11,576) between September 2008 and October 2012.¹³ The PROMs collected included the Oxford Hip Score (a hip focused quality of life score), the EQ-5D index (a measure of general health outcomes), EQ-5D VAS scores, and success and patient satisfaction scores.¹³ The results of the analysis showed that patients who received a CORAIL/PINNACLE Hip Construct had a statistically significant median increase of 22 points on the Oxford Hip Score at 6 months postoperatively (Figure 6).¹³

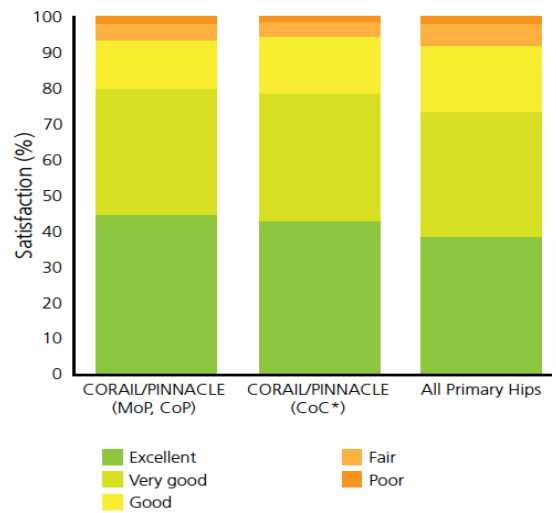
Figure 6. Pre-Op and 6-Month Oxford Hip Scores for the CORAIL/PINNACLE Hip Construct Subjects from the National Joint Registry



Source: DePuy Synthes. Patient Reported Outcomes Measures of the CORAIL/PINNACLE Hip Construct. DSUS/JRC/0216/1429 10/16. Available at: <https://www.depuysynthesinstitute.com/hip/qs/1DSUSJRC02161429>.

General health outcomes, as measured by the EQ-5D, also significantly increased by 0.38 points in CORAIL/PINNACLE Hip Construct patients at 6 months post THA surgery.¹³ Additionally, 79% of CORAIL/PINNACLE Hip Construct patients reported excellent or very good levels of satisfaction with their hip implant compared to 73.5% of all primary hips (Figure 7).¹³

Figure 7. Patient Satisfaction Scores at 6 Months After Surgery for the CORAIL/PINNACLE Hip Construct Subjects and All Primary Hips from the National Joint Registry



Source: DePuy Synthes. Patient Reported Outcomes Measures of the CORAIL/PINNACLE Hip Construct. DSUS/JRC/0216/1429 10/16. Available at: <https://www.depuysynthesinstitute.com/hip/qs/1DSUSJRC02161429>.

Summary

The Anterior Approach is supported by studies from the clinical literature and real-world evidence of improved patient outcomes and reduced overall costs. The Anterior Approach (as described by Joel Matta, MD) utilizes the strengths of the hana® table, intraoperative fluoroscopy, and the CORAIL/PINNACLE Hip Construct without negatively impacting the quality of care during the initial admission and 90-day post-discharge setting.

Since 2005, DePuy Synthes has provided training on the Anterior Approach to more than 10,000 healthcare professionals. A broad scope of educational offerings exists to help reduce the learning curve and increase the reproducibility of the Anterior Approach.

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DSUS/JRC/0417/2128 July 2017 v12

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