INFINITUS MEDICAL TECHNOLOGIES · 2026 EDITION

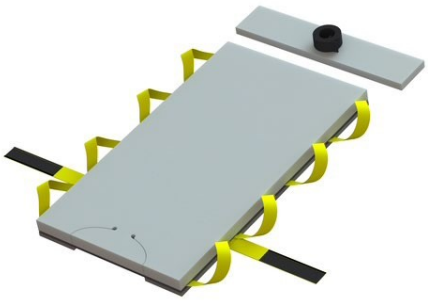
COMBINED SURGICAL POSITIONING & PATIENT HANDLING SYSTEMS

Category education, compliance, and true cost under DRG, BPCI Advanced and TEAM payment.

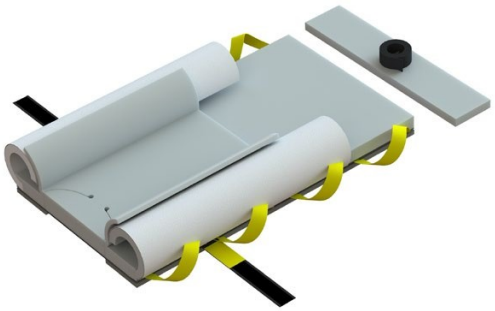
VALUE ANALYSIS · PERIOPERATIVE LEADERSHIP · SUPPLY CHAIN · FINANCE

Familiarity Should Not Be Mistaken for a Standard of Care. The Process Was Flawed From the Beginning.

In 2016, Infinitus Medical Technologies introduced the Foam Pad Lift System (FPLS®), the first Trendelenburg positioning product line engineered to combine safe patient handling and surgical positioning in a single device. For a decade, Genesis and Hadron have carried that combined value proposition alone. The industry has only begun to mimic it in the last two to three years, with handled and air assist variants now appearing. A design is copied when it is worth copying. The question this document puts to value analysis is whether the imitations reproduce the engineering or only the appearance.



HADRON FPLS®-3000-PAD



GENESIS BI-WING® AAP

Start with the object the category was built to replace. A static, unreinforced, high friction piece of foam and a 12 by 80 inch draw sheet. The draw sheet is asked to do two jobs it was never designed for. It must lift and move an anesthetized patient into lithotomy, then tuck the arms. Those are separate failure modes. One sheet, too narrow, used as a transfer device and as an arm restraint. That combination is still treated as a standard of care by the market leader in Trendelenburg positioning. Everything that followed carried the same process flaws. Those flaws became a familiar standard of care rather than a standard that guided process and balanced safety for the patient and the surgical staff.

THE STATUS QUO DESIGN: STATIC FOAM PLUS A 12 X 80 INCH DRAW SHEET. NOTE THE LENGTH FROM THE PAD TO TOP OF TABLE.

AORN does not treat those jobs as one small draw sheet problem. Ergonomic Tool #1 limits draw-sheet-only lateral transfers and lifts: above about 157 lb, a pull with the sheet alone exceeds the 35 lb sustained-force model and requires an assistive device (air-assisted, or a low and high friction combination device), a mechanical transfer device, or a lift. Positioning guidance then requires a clean arm tuck: palms in, elbows not hyperextended, sheet between the patient and the mattress, not under it. One 12 inch draw sheet cannot satisfy both.

That width is not an accident. The market leader's lift sheets are cut 12 by 80 to 84 inches and parked in the lumbar span so the sacrum and scapulae sit on exposed foam. The commercial and patent claim is that the patient must sink into those two contact patches, and that indentation is what keeps them from sliding in steep Trendelenburg and lithotomy. Indentation is not a substitute for friction coefficient times contact area. Efficacy is driven by an optimized friction interface that accounts for adipose tissue and skin elasticity, together with pad reinforcement that eliminates the elongation and tearing that contribute to skin shearing and migration.

A few square inches of compressed foam under two bony landmarks is a small interface. A 12 inch draw sheet between those landmarks does not add area; it subtracts it. It also cannot cradle the torso for a lithotomy transfer: the sheet is off the pelvis and scapulae by design, so the pull is a cinch through lumbar soft tissue. After that drag, the same wrinkled strap is asked to wrap both arms. The physics that actually resist migration in Trendelenburg and lithotomy are high friction over a large, continuous surface, not two foam wells plus a draw sheet.

AORN already separated transfer from positioning. A kit that still uses one 12 by 80 sheet for both jobs is optimizing pad exposure, not handling or tuck safety. Pad exposure itself is the right goal: pad-to-skin contact is what delivers traction and stability, and that is the physics. The difference is how it is achieved: by shrinking the transfer sheet until the handling method fails, or by engineering handling and arm care into the pad so no sheet is needed at all. This document asks value analysis committees to undo more than 20 years of a process that was adopted because the product was designed that way, not because AORN or biomechanics said it was safe. Familiarity should not be the foundation of positioning care. Let science, clinical workflow, and process move purchasing past brand and past unit cost.

INDUSTRY CONVERGENCE ON DYNAMIC POSITIONING

Every major entrant discussed in this document has now converged on the combined handling-plus-positioning value proposition IMT introduced with the FPLS® platform in 2016. The mechanisms differ: FPLS® is the industry's first lift-and-slide process, handle-based and mechanical-lift compatible, while the entrants below approached the same combined value proposition primarily through air-assisted transfer or by adding handles to static platforms. The timeline compiles the market entries referenced in the sections that follow.

Date	Market entry
2016	IMT introduces the FPLS® platform (Genesis / Hadron): the industry's first lift-and-slide handling process, combining safe patient handling and surgical positioning in one engineered pad, with 8 integrated handles, a hybrid-friction underside, and mechanical-lift compatibility. Baseline for every entry below.
Mar 2022	Stryker (Sage Products) launches Multi-Position MATS, an air-assisted transfer system with securement for Trendelenburg, reverse Trendelenburg, lithotomy, and lateral tilt: an air-assisted entrant into combined transfer and positioning, similar in approach to HoverTech and, later, Xodus. Six years after FPLS® established the combined category.
2022	HoverTech International launches HoverMatt T-Burg, marketed as Trendelenburg patient stabilization and air transfer in a single device (showcased at Vizient Innovative Technology Day, fall 2022).

Date	Market entry
2023	Xodus Medical launches Pink Pad® Safe Assist and Pink Pad® Air-Assist, following approximately eight to nine years of GPO contract protection for its draw-sheet era product. The Air-Assist patent, US 12,678,360 (provisionals Nov 2022 and Mar 2023; granted Jul 14, 2026), is junior to IMT's PNEUMA priority date by approximately eight months and cites none of the Gomez patents.
2024 to 2026	NinoMed LLC introduces the STS-BodyPad series (SKUs STSBPRG2, STSBPXL2): kits combining a body pad with integrated handles to move the pad plus patient, a lift sheet, and body straps, converting its 2014-era Safe-T-Secure static positioner line into a handling-capable system.
2024 to 2026	U.S. Surgitech, Inc. introduces the SurgyLift system (kit SKUs 780KTPT1, 780KTPT2; inflatable transfer device SKUs 780SLPT1, 780SLPT2), pairing the SurgyPad® positioner with an inflatable lateral transfer device.
2026	Stryker launches Multi-Position MATS 2.0, a second-generation air-assisted transfer and positioning system.

Entry dates from manufacturer announcements, FDA GUDID records, and distributor listings; patent particulars from USPTO records. A decade separates the FPLS® platform from the earliest of these entries; every one adopts the handling capability, the friction management, or the air-assist integration the platform introduced.

The convergence is the point. For two decades, the draw-sheet method persisted largely because the underlying patient-handling process went unquestioned. In 2016, FPLS® challenged that status quo by integrating patient handling directly into the positioning platform. Within a few years, major manufacturers across the category, including some of the world's largest medical device companies, redirected product development toward combined handling and positioning.

A value proposition is contested when introduced and validated when the market begins to follow it. The market has now rendered that verdict on IMT's approach. The question before value analysis is no longer whether engineered patient handling belongs in the OR, but which engineering actually delivers a complete solution.

That distinction matters. Newer handled designs (air assisted and manual full lift models) from NinoMed, Stryker, and Xodus represent progress in repositioning, yet they still rely on logrolling and a draw sheet to tuck the patient's arms. In other words, handles address only part of the workflow while leaving a longstanding manual-handling step intact.

That is only half the progress needed. True safe-patient-handling innovation should address the entire positioning workflow: not simply how the patient is moved, but how the patient is transferred, repositioned, stabilized, and the arms secured without unnecessary manual lifting or rolling. The remainder of this document evaluates which engineering approach most completely achieves that objective.

1 · EXECUTIVE SUMMARY

Surgical positioning and transfer pads are commonly purchased on unit price. This document makes the case, with market data, published standards, federal cost report and claims data, and episode-level economics, that unit price is the least competent value principle in this category. Three findings drive that conclusion.

First, the market divides into three functionally distinct categories. Static pads position but cannot move the patient; every reposition falls back on manual drawsheet handling. Dynamic handled pads integrate lift handles so the team moves patient and pad as one unit. Air-assisted systems float the patient on an inflated cushion for transfer. Comparing products across these categories on price alone compares tools that do different jobs.

Second, the compliance framework has hardened. AORN Ergonomic Tool #1 requires assistive technology, such as an air-assisted transfer system, for lateral transfer of patients above 157 lb. HHS's 2024 Section 504 final rule (45 C.F.R. Sec. 84.94, Qualified Staff, in effect since July 8, 2024) makes staff capability to assist with transfers and positioning of individuals with disabilities a program-access duty for Medicare and Medicaid funded facilities. A drawsheet-only method sits outside the first and does not demonstrate the second.

Third, payment is fixed and now accountable, so the economics live in process, not price. Medicare pays one amount per inpatient stay (DRG) or outpatient procedure (APC), however long the case takes. Since January 1, 2026, CMS's mandatory Transforming Episode Accountability Model (TEAM) also holds 715 hospitals accountable for Medicare spending from surgery through 30 days after discharge on five surgical episodes, including major bowel procedures, joint replacement and hip fracture surgery. On the procedures in the Intuitive robotic coding guide, Medicare paid hospitals about $1,000 more than estimated cost per inpatient case in 2024 and about $1,800 less per outpatient case. At a composite working OR cost of approximately $74 per minute, a $30 to $70 unit-price difference between pads equals well under one minute of OR time, while positioning method differences consume 5 to 25 minutes per case. A modeled $50 incremental product cost breaks even in roughly 41 seconds of released OR time and returns approximately $1,578 net per case, about $473,400 per year at 300 cases.

IF THE ONLY NUMBER YOU LOOK AT IS PRICE, READ THIS BOX FIRST

Positioning pads differ in price by about $30 to $70. One minute of OR time costs about $74. So the entire price difference between competing pads is worth less than one minute of OR time.

What the pads do *not* share is the method they force on your team. A static pad's drawsheet method takes roughly 5 to 25 minutes of positioning work per case, with 4 to 8 staff lifting the patient's full weight. An engineered 8-handle pad does the same job in about 1 to 3 minutes with a standard team, as a slide instead of a lift.

Priced as the episode experiences it, the $60 pad truly costs about $1,170 per case, and the $124 pad about $272. The cheapest pad on the purchase order is the most expensive method in the operating room. Sections 7 and 8 show the arithmetic, and Appendix B is a worksheet for your facility's own numbers.

2 · THE THREE PRODUCT CATEGORIES

2.1 STATIC PADS (NO INTEGRATED HANDLES, NON-AIR-ASSISTED)

Static pads secure and cushion the patient in position, most commonly for steep Trendelenburg. Their defining limitation is that they provide no handling capability: the patient cannot be repositioned on the pad, so placement location is fixed at setup, and every subsequent move (boosting, lateral transfer, arm tucking) reverts to manual methods, typically a 12 to 13 inch drawsheet requiring a full deadweight lift of the patient. Representative

products: U.S. Surgitech SurgyPad® line (780SP9/12/1/7; enter your facility's contracted price) and the Xodus Pink Pad® kit family (40580 through 40595; enter your facility's contracted price).

2.2 DYNAMIC PADS WITH HANDLES

Dynamic handled pads integrate lift points into the pad itself so the team moves patient and pad together. Within this category, engineering differences matter more than handle counts: what the handles connect to (reinforced load path versus net-and-foam), handle orientation (lateral neutral-wrist versus vertical), underside design (hybrid-friction slide versus full-friction lift), and setup complexity (3 versus 9 strap engagements). Representative products: IMT Genesis (FPLS®-3000, $124) and Hadron (FPLS®-3000-PAD, $105), Ninomed STS-BodyPad kits (enter your contracted price), and Xodus Pink Pad® Safe Assist (40611; enter your contracted price).

2.3 AIR-ASSISTED TRANSFER SYSTEMS

Air-assisted systems inflate a cushion beneath the patient to reduce transfer force toward zero. The category divides between purpose-built integrations (IMT PNEUMA, a single pad fusing air-assist transfer, Trendelenburg positioning, and arm adduction, $180 contracted, blower-agnostic) and combinations that pair a positioning pad with a hover-type transfer mat (Xodus Air-Assist 40655/40659/40664, at your contracted price plus a separately sold blower; U.S. Surgitech SurgyLift, at your contracted price for the kit SKU plus cart and pump components; Stryker Sage 3232, at your contracted price plus the Prevalon pump ecosystem).

2.4 MARKET LANDSCAPE AT A GLANCE

Category	Manufacturer	Representative products	Unit price (latest)
Static	US Surgitech	SurgyPad® 780SP9/12/1/7	Enter your contracted price
Static	Xodus	Pink Pad® kits 40580 to 40595	Enter your contracted price
Dynamic handled	Ninomed	STS-BodyPad kits (4 SKUs)	Enter your contracted price
Dynamic handled	IMT	Hadron FPLS®-3000-PAD / Genesis FPLS®-3000 / Genesis XL (bariatric 27 inch wide pad)	$105 / $124 / $150 (ASP)
Dynamic handled	Xodus	Pink Pad® Safe Assist 40611	Enter your contracted price
Air-assisted	IMT	PNEUMA Genesis Bi-Wing (blower-agnostic; no separate blower purchase required)	$180 (ASP)
Air-assisted	US Surgitech	SurgyLift 780KTPT1 kit (SurgyLift air transfer mattress, SurgyPad® positioning pad, integrated adjustable arm protectors, universal body strap)	Enter your contracted price
Air-assisted	Xodus	Air-Assist 40655/40659/40664 (plus blower)	Enter your contracted price
Air-assisted	Stryker Sage	3232 Air Transfer Mattress (plus pump)	Enter your contracted price

Sources: IMT unit prices from contracted IMT quotes; all competitor unit pricing (US Surgitech, Ninomed, Xodus, and Stryker Sage) is intentionally left blank for the committee to enter from its own contracts and purchase orders, the most reliable pricing source available to any facility. Blower requirements noted. IMT rows shaded.

2.5 FIVE-YEAR PRICING: RUN THE TEST YOURSELF

The most reliable five-year pricing dataset available to a value analysis committee is its own purchase history. Pull the facility's unit-price history on incumbent positioning SKUs across 2021 to 2026 and chart the trajectory. Committees that run this exercise will see whether their category follows the familiar economics of adoption first, escalation second, concentrated precisely where the facility is most committed. Then put every vendor in the category to the same procurement test: request five-year fixed pricing, contractually contained, and see who signs. Contracted IMT pricing is offered as a fixed-quote alternative to that trajectory; IMT has changed pricing only once in five years.

3 · THE COMPLIANCE FRAMEWORK

3.1 AORN ERGONOMIC TOOLS

AORN Ergonomic Tool #1 (Lateral Transfer of a Patient from a Stretcher to an OR Bed; Waters et al., AORN Journal, March 2011;93(3):334-339) sets weight-tiered requirements: two caregivers above 57.9 lb, three above 104.9 lb, and above 157 lb (71.21 kg), four caregivers together with assistive technology such as an air-assisted lateral transfer device or mechanical lift. Above 157 lb, manual lateral transfer, including drawsheet methods, sits outside AORN's recommended practice. AORN Ergonomic Tool #2 governs positioning and repositioning on the OR bed and similarly caps manual tasks by patient weight; a drawsheet-only positioning program is inconsistent with Tool #2, a documentable program gap. AORN's 2024 Guideline for Safe Patient Handling further directs teams to use friction-reducing devices whenever possible, distribute force among sufficient caregivers, and minimize manual lifting.

3.2 OSHA AND NIOSH

OSHA's General Duty Clause, Section 5(a)(1), obligates employers to keep workplaces free of recognized serious hazards; repeated manual deadweight patient lifting is a recognized ergonomic hazard that OSHA has cited in healthcare settings, supported by its ergonomics guidance for healthcare facilities. The NIOSH Revised Lifting Equation targets a Lifting Index at or below 1.0, with coupling quality as a direct multiplier: gathered drawsheet fabric rates Poor (CM 0.90) while defined handle grips rate Good (CM 1.00). NIOSH guidance applies the equation directly only to a limited range of patient-handling tasks involving a cooperative, predictable patient; for anesthetized multi-caregiver moves, its principles (load distribution, coupling, friction reduction, the ~35 lb per-caregiver reference) are applied here as ergonomic context rather than as a direct compliance calculation. Load sharing across 8 handles holds per-caregiver force at or below 35 lb at the 6-caregiver configuration (approximately 30 to 55 lb at minimum staffing, IMT estimate).

3.3 SECTION 504, 45 C.F.R. SEC. 84.94 (QUALIFIED STAFF)

HHS's 2024 Section 504 final rule requires that recipients of federal financial assistance ensure their staff are able to successfully operate accessible medical diagnostic equipment, assist with transfers and positioning of individuals with disabilities, and carry out the program access obligation regarding existing MDE. The qualified-staff duty has been in effect since July 8, 2024; the accessible-MDE equipment milestone takes effect July 8, 2026. HHS guidance is explicit that recipients are required to assist patients with disabilities in transferring to and positioning on equipment. An engineered shared-load repositioning capability that lets a standard team position patients of all BMI classes directly supports this obligation; a drawsheet-only method does not demonstrate it. This is a supports-compliance posture, not a compliance guarantee; facilities should route final framing through counsel.

3.4 STATE SAFE PATIENT HANDLING STATUTES

Multiple states maintain safe patient handling requirements that require or encourage healthcare facilities to minimize manual patient lifting and implement handling programs and equipment; Texas, California, and New Jersey additionally protect workers who decline unsafe lifts through refusal or nonretaliation provisions. Jurisdiction-specific statutes and citations are compiled in Appendix A. A drawsheet method with no engineered assistive device is inconsistent with minimize-manual-lifting mandates; an engineered handled system is the type of assistive device those programs contemplate.

3.5 COMPLIANCE POSTURE BY CATEGORY

Framework	Static pad + drawsheet	Engineered handled (Genesis / Hadron)	Air-assisted (PNEUMA)
AORN Tool #1 (>157 lb)	Outside recommended practice; assistive device required	Assistive-device pathway; roller-board compatible	Air-assisted device named by the tool itself
AORN Tool #2 / 2024 SPHM	Program gap; drawsheet-only inconsistent	Aligned; friction-reducing, force-distributing	Aligned
OSHA General Duty 5(a)(1)	Citation exposure; recognized ergonomic hazard every case	Mitigated; engineered handles, slide not lift	Mitigated; lift-free transfer
Section 504 Sec. 84.94	Capability gap; does not demonstrate shared-load assist	Supports the qualified-staff obligation	Supports the obligation
State SPH requirements	Inconsistent with minimize-manual-lifting mandates	Supports program requirements as an engineered assistive device	Supports program requirements as an engineered assistive device

AORN Ergonomic Tools are recommended practices; OSHA, Section 504, and state statutes are legal regimes. Characterizations above use exposure and support language rather than legal conclusions. Rev. 2026-08 standards alignment applied throughout.

4 · THE PROBLEM: THE FORCED SAFETY COMPROMISE

Two positioning requirements. One patient. They cannot both be met with a static surface.

FIGURE 1 · THE SETUP CONFLICT: LITHOTOMY-READY PAD PLACEMENT VERSUS AIRWAY-ACCESSIBLE PATIENT PLACEMENT.

4.1 THE SETUP CONFLICT

The static pad must be pre-positioned in the lithotomy-ready location, while the anesthetized patient initially requires positioning at the table's break point or compressors to permit proper tilt and maintain airway access. These two requirements are inherently incompatible.

The conflict is driven by basic geometry: a modern surgical table's midplate is approximately 45 inches long, while the average adult sitting height from the top of the head to the sacrum is only about 34 to 36 inches. This roughly 9 to 11 inch dimensional mismatch forces a subsequent patient shift, creating an avoidable compromise between airway security, patient safety, and the musculoskeletal safety of the surgical team.

4.2 THE FORCED MOVE

Resolving the conflict requires a high-risk 9 to 11 inch caudal shift of an anesthetized 300 to 400 lb patient: a full manual lift on a high-friction surface, performed around a secured airway. The entire static contact surface is high friction: the patient must be lifted completely clear of the surface before moving, higher force is required to overcome friction drag, and the method is not compatible with roller-board lateral transfers.

4.3 WHY THE DRAWSHEET MAKES IT WORSE

The standard 12 to 13 inch drawsheet concentrates the load on gathered fabric and fewer hands. Four caregivers perform a full deadweight lift; uneven pull increases shear, strain, and fatigue. Arm tucking requires rolling the patient side-to-side repeatedly. What the drawsheet costs the team on every case:

- **Poor force distribution:** gathered fabric concentrates load on fewer points and fewer staff.
- **Higher risk:** increased strain and injury risk for caregivers.

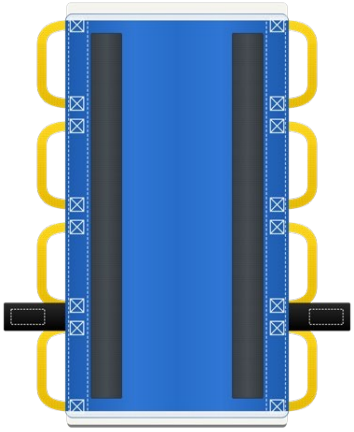
- **Less stability and control:** less control during transfers and repositioning.
- **Longer transfers:** more time, more exertion, greater cumulative fatigue.

What is at stake: the team is forced to compromise between airway security and musculoskeletal safety, for both the patient and the surgical staff. Every case repeats the same exposure.

5 · THE SOLUTION: ENGINEERED REPOSITIONING

The 8-handle hybrid-friction platform changes the task itself: lift slightly, disengage the side strips, and slide patient and pad together to the break point. A controlled slide instead of a full lift, with alignment and airway maintained. Unlike ergonomic interventions that rely on behavioral change, Genesis changes the physical mechanics of the transfer itself, producing workflow improvements that can be independently verified using operational data.

5.1 THE UNDERSIDE THAT DECIDES THE TRANSFER



- High-friction side strips stabilize the patient during setup.
- Lift slightly to disengage the lateral strips.
- Low-friction center lets patient and pad move as one unit.
- Lower force: the team slides instead of lifting; reduced shear; roller-board compatible.
- Reinforced design keeps the pad from tearing and elongating, and lifts up to 800 lb.

FIGURE 2 · HYBRID-FRICTION UNDERSIDE: HIGH-FRICTION SIDE STRIPS, LOW-FRICTION CENTER PANEL, 8 LATERAL HANDLES.

COMPLIANCE Friction-reducing device with shared load (OSHA, AORN, NIOSH).	**STAFF SAFETY** Lowest peak force per caregiver; a slide, not a lift.
PATIENT SAFETY Patient and pad move as one unit; less shear, less drag.	**OPERATIONAL BENEFIT** Roller-board compatible, faster turns, less fatigue.

5.2 HOW THE PATIENT MOVES: FULL LIFT VERSUS LIFT-AND-SLIDE

The decisive difference between the two methods is what happens at the moment of movement. The drawsheet's entire static contact surface is high friction, so the patient must be lifted completely clear of the surface before any movement; the 8-handle pad's hybrid-friction underside converts the same task into a two-step slide.

DRAWSHEET: FULL-SURFACE FRICTION

FULL LIFT REQUIRED TO OVERCOME FRICTION

- Requires a full lift of the patient.
- Patient must be lifted completely clear of the surface before moving.
- Higher force required to overcome friction drag.
- Increases strain and tissue shear during transfers.
- Sheet bunches and drags; patient and device do not move together.
- **Cannot be used for lateral transfer with a roller board or with mechanical lifts.**

8 HANDLES: HYBRID FRICTION, LIFT + SLIDE

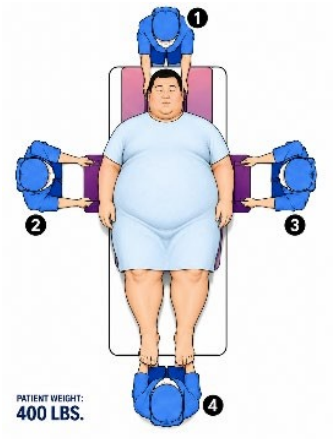
1. LIFT & DISENGAGE SIDES · 2. SLIDE ON LOW-FRICTION CENTER

- High-friction side strips stabilize the patient during setup.
- Lift slightly to disengage the lateral strips.
- Low-friction center: patient and pad move as one unit; reduced shear.
- Lower force: the team slides instead of lifting.
- **Can be used for lateral transfer with a roller board and mechanical lifts.**

FIGURE 3 · FULL LIFT ON FULL-SURFACE FRICTION (LEFT) VERSUS THE TWO-STEP LIFT-AND-SLIDE ON THE HYBRID-FRICTION UNDERSIDE (RIGHT).

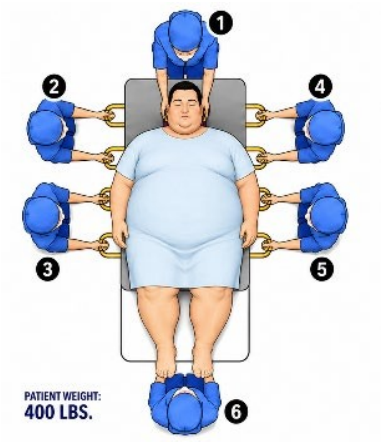
5.3 ERGONOMIC RISK TO THE SURGICAL TEAM

12" DRAWSHEET · 4 CAREGIVERS



- Patient must be fully lifted clear of the surface.
- Entire contact surface is high-friction drag.
- Gathered fabric = poor force distribution.
- Higher strain and injury risk; less control.
- Not roller-board compatible.

8 HANDLES, 4 PER SIDE · 6 CAREGIVERS



- Eight lift points spread the load across more hands.
- Side strips stabilize; center lets it slide.
- Patient and pad move as one unit.
- Lower peak force: a slide, not a lift.
- Reduced shear; roller-board compatible.

FIGURE 4 · TEAM CONFIGURATION AND LOAD PATH: 12 INCH DRAWSHEET WITH 4 CAREGIVERS (LEFT) VERSUS 8 HANDLES WITH 6 CAREGIVERS (RIGHT). 400 LB PATIENT SHOWN.

The drawsheet does not merely take longer; it concentrates ergonomic load exposure at every point NIOSH lifting principles identify as risk drivers: concentrated caregiver loading, poor coupling on gathered fabric, a full patient lift, and high friction drag. The 8-handle system changes the task itself (lift slightly, disengage the sides, and

slide), distributing load across defined handholds with lower peak force exposure. Lifting Index figures below are IMT-modeled estimates offered for ergonomic context.

IMT® also makes the industry's only mechanical-lift-compatible line of products, offering three modes of patient handling and positioning: watch the demonstration video.

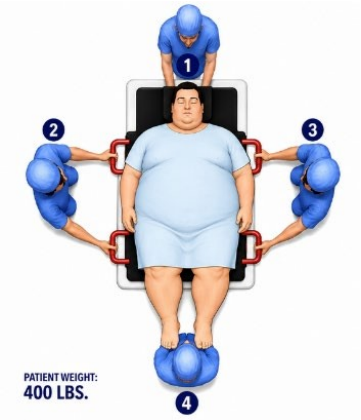
Metric (400 lb patient)	12" drawsheet	8 handles (4 per side)	Advantage
Lifting Index (LI) per caregiver (IMT-modeled estimate)	Higher: ~1.0 to 3.5+	Lower: ~1.0 to 2.2	8 handles
Peak force per caregiver	~70 to 120+ lb (uneven)	~30 to 55 lb (≤35 lb at 6-caregiver config)	8 handles (about half)
Coupling / grasp quality (CM)	Poor (0.90)	Good (1.00)	8 handles
Friction / shear	Worst: drag across surface	Best: stabilizes, then slides	8 handles
Full lift required?	Yes: cleared for lift	No: lift slightly, then slide	8 handles
Roller-board lateral transfer	Not compatible	Compatible	8 handles
Patient + device move together	No: bunches and drags	Yes: one unit	8 handles
Transfer time and fatigue	Longer	Shorter	8 handles

Biomechanical principles draw on the Revised NIOSH Lifting Equation (RNLE), OSHA Safe Patient Handling guidance, AORN Guideline for Safe Patient Handling and Movement (2024), and published friction-reducing device research. NIOSH lifting principles and the commonly referenced 35 lb patient-handling threshold provide ergonomic context; the RNLE was developed for stable two-handed material lifts and is not directly applicable to all multi-caregiver patient-handling tasks, so Lifting Index values shown are IMT-modeled estimates, not compliance determinations. Actual staffing should follow institutional SPH policies and patient-specific assessment.

5.4 FOUR HANDLES VERSUS EIGHT: THE FORCE-DISTRIBUTION BREAKPOINT

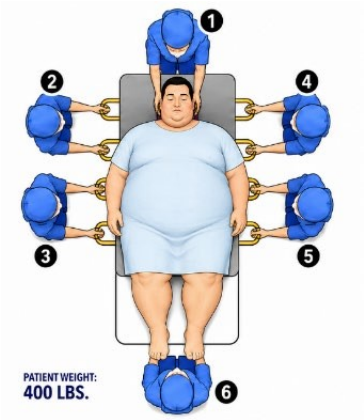
Within the dynamic handled category itself, handle count and configuration decide how far the load spreads. Evaluated against OSHA, AORN, and NIOSH Revised Lifting Equation standards for safe patient handling, the same 400 lb patient produces very different per-caregiver exposure on a 4-handle pad than on an 8-handle pad.

4-HANDLE CONFIGURATION · 4 PEOPLE · HIGHER RISK



- **Poor force distribution:** fewer lift points concentrate forces on fewer staff.
- **Higher risk:** increased strain and injury risk for caregivers.
- Less stability and control during transfers and repositioning.
- **Longer transfers:** more time, more exertion, greater cumulative fatigue.
- **Team roles:** provider at head; caregiver on left side (2 handles); caregiver on right side (2 handles); caregiver at feet.
- ~200 to 240 lb torso load concentrated on 1 caregiver per side; full lift required; ~50 to 60+ lb per torso caregiver before friction (IMT-modeled estimate); modeled Lifting Index well above 1.

8-HANDLE CONFIGURATION · 6 PEOPLE · LOWER RISK



- **Balanced force distribution:** more lift points spread the load evenly across the whole team.
- **Lower risk:** reduced strain and injury risk for caregivers.
- Greater stability and control during transfers and repositioning.
- **Faster transfers:** less time, less exertion, less cumulative fatigue.
- **Team roles:** provider at head; caregivers on left upper, left lower, right upper, and right lower sides (2 handles each); caregiver at feet and legs.
- ~200 to 240 lb torso load distributed across 2 caregivers per side; partial lift plus sliding on the low-friction center; lower peak forces, spinal compression, and shear; modeled Lifting Index moves toward the ≤1.0 target (IMT-modeled estimate).

FIGURE 5 · FORCE DISTRIBUTION ON THE SAME 400 LB PATIENT: 4 HANDLES AND 4 CAREGIVERS (LEFT) VERSUS 8 HANDLES AND 6 CAREGIVERS (RIGHT). PAD 20" X 36", POSITIONED UNDER TORSO AND HEAD ONLY (TOP OF HEAD TO SACRUM / LOWER BUTTOCKS).

Factor	4 handles (4 people)	8 handles (6 people)	Advantage
Estimated torso mass	200 to 240 lb	200 to 240 lb	Same load to be moved
Torso lift points	4	8	Twice the contact points
Torso-side caregivers	2 total (1 per side)	4 total (2 per side)	Double the lifting personnel
Handles per torso caregiver	2	2	Same grip standard
Head / airway + legs / feet	1+1	1+1	Same support roles
Total team	4	6	Load spread across more staff
Force concentration	High	Lower	Better force distribution
Friction management	None (high friction)	High / low friction design	Friction-reduction advantage
Modeled Lifting Index (IMT estimate)	Well above 1	Reduced toward acceptable range	Stronger alignment with NIOSH principles
Biomechanical risk	Higher (MSD risk up)	Lower (MSD risk down)	Lower injury risk
Shear and tissue risk	Higher	Lower	Improved patient safety

MORE HANDLES. BETTER OUTCOMES.

Eight handles enable true team lifting: better force distribution, lower modeled Lifting Index, reduced caregiver spinal loading, and reduced risk of injury and fatigue. Based on reviewed product design and IMT testing, the configuration supports stronger alignment with OSHA General Duty Clause Sec. 5(a)(1), AORN safe patient handling guidance (friction-reducing devices, force distribution, minimized manual lifting, airway and alignment maintained), and NIOSH lifting principles, including the LI ≤ 1.0 target.

6 · CATEGORY CROSSWALKS (CONDENSED)

Full pillar-by-pillar crosswalks with crossed part numbers are available from IMT as a separate reference. The decisive differentials condense as follows.

6.1 VERSUS STATIC DRAWSHEET PADS (SURGYPAD®; PINK PAD® KITS)

Every static pad, whatever its foam, delegates movement to the drawsheet: a full deadweight lift with Poor coupling (RNLE CM 0.90), estimated peak loads of 70 to 120+ lb per caregiver, and a spatial disconnect between the patient's 34 to 36 inch torso span and the table's roughly 45 inch midplate that forces low placement and airway compromise. Genesis and Hadron were created for exactly this conflict: place the pad at the head of the table for safe induction, then lift-and-slide patient and pad into surgical position on 8 handles and a hybrid-friction underside. The Bi-Wing replaces drawsheet arm tucking, which AORN's positioning practices caution against absent surgical need, and Pneumafom pressure mapping (18.61 mmHg average, 58.71 peak, 411 sq in contact) outperforms both viscoelastic memory foam (21.41 / 220 / 351.25) and conventional plush and support foams (20.02 to 20.33 average; peaks of 98.31 and 72.52).

6.2 VERSUS DYNAMIC HANDLED COMPETITORS (STS-BODYPAD; SAFE ASSIST)

The STS-BodyPad offers 4 handles to Genesis's 8, halving lift points (see Section 5.4), and a full-friction underside that requires a complete lift versus Genesis's disengage-and-slide hybrid-friction interface. The Safe Assist matches the handle count, so the differential moves to engineering: vertically oriented straps forcing wrist flexure at maximum load versus lateral neutral-wrist handles; a cargo-net load path through which patient and pad herniate (per IMT engineering assessment) versus reinforced construction that moves patient and pad as one; 9 strap engagements consuming bedrail space versus 3; and a kit that still ships a lift sheet for drawsheet arm tucking versus integrated Bi-Wing adduction. Genesis and Hadron have been the benchmark for combined handling and positioning for over 10 years; per IMT's market review, competing dynamic capability emerged within the last 2 to 3 years.

6.3 VERSUS AIR-ASSISTED COMBINATIONS (XODUS AIR-ASSIST; SURGYLIFT; HOVER-TYPE MATS)

Combination systems pair a positioning pad with a hover mat whose design intent, a low-friction surface beneath the patient, is the opposite of what surgical positioning requires, creating migration risk that is most acute in Trendelenburg. They inflate 9 to 12 inches, overlapping bedrails and obstructing visualization, add a second device to stock, mate, and sequence every case, and dictate a capital path (dedicated blower or pump). PNEUMA is a purpose-built integration: a consolidated 20 by 36 inch footprint inflating to 4 inches, tested to 400 lb, high-friction anti-skid when deflated, 5 total straps, integrated Bi-Wing arm care, a pull-out fluid drape, and blower-agnostic operation with any hover-type blower the facility already owns, so zero new capital is required to adopt. An optional blower can be purchased from IMT®.

7 · COST UNDER FIXED AND BUNDLED PAYMENT: DRG, BPCI ADVANCED AND TEAM

7.1 WHY THE EPISODE, NOT THE PAD, IS THE UNIT OF ACCOUNT

Under DRG and APC payment, BPCI Advanced and now TEAM, facility revenue per case is fixed. Product price is visible on the purchase order; process time is invisible there and fully real on the P&L. Each working OR minute carries approximately $74 of composite cost (about $33 direct staff, $29 room overhead, and $12 anesthesia support), so a $30 to $70 unit-price difference between pads is worth less than one minute of OR time, while the difference between drawsheet positioning (5 to 25 minutes by BMI, with 7 to 8+ staff on morbidly obese cases) and engineered 8-handle positioning (1 to 3 minutes, all BMI classes, standard team) is measured in tens of dollars of product and thousands of dollars of process.

7.2 FROM BPCI TO TEAM: WHAT BUNDLED PAYMENT NOW REWARDS

- **BPCI Advanced** was voluntary. CMS's final evaluation reports Medicare spending $700 to $1,100 lower per episode and more than $800 million in net savings over eight model years; earlier bundled models found most savings after discharge, in lower use of skilled nursing and rehabilitation.
- **TEAM** (Transforming Episode Accountability Model) is mandatory for selected hospitals from January 1, 2026 through December 31, 2030: 715 hospitals, 705 required and 10 voluntary. It covers five surgical episodes: lower extremity joint replacement, surgical hip and femur fracture treatment, spinal fusion, coronary artery bypass graft, and major bowel procedure.
- **How TEAM settles.** CMS sets a regional target price for each episode from 2022 to 2024 baseline spending, less a discount (2% for joint replacement, hip fracture and spinal fusion; 1.5% for CABG and major bowel). Medicare spending on the hospital's episodes, from the stay through 30 days after discharge, is compared with the target: below it, CMS pays the hospital the difference; above it, the hospital repays, adjusted for quality.

TEAM measures Medicare spending, not hospital cost, so a cheaper supply does not by itself move a TEAM result. What moves it is what happens inside the fixed payment and after discharge: OR and hospital time, complications that lengthen the stay, and discharges to skilled nursing or readmissions. A single hospital-acquired pressure injury is estimated at $20,900 to $151,700 in patient care costs (CMS estimate cited by AHRQ). Positioning method touches all three.

Procedures	In TEAM?	What the hospital carries
Colorectal resection (major bowel)	Yes	Fixed DRG payment for the stay, plus 30 days of Medicare episode spending: readmissions, skilled nursing, home health
Joint replacement; hip and femur fracture surgery	Yes	Same; see Section 9
Gynecologic, urologic and other robotic and laparoscopic procedures	No	Fixed DRG or APC payment per case; every positioning minute and complication is unreimbursed cost

7.3 WHAT HOSPITALS EARN PER CASE TODAY

Medicare claims and cost report data for calendar 2024 show how thin the margin is on the procedures this category serves. Estimated cost applies each hospital's own cost-to-charge ratio to its charges.

Procedures in the Intuitive robotic coding guide (robotic, laparoscopic and open)	Medicare cases	Paid per case	Estimated cost per case	Result per case
Inpatient	138,014	$25,812	$24,808	+$1,004
Outpatient	606,141	$5,059	$6,870	–$1,811

TEAM episode, anchor stay at the 715 TEAM hospitals	Medicare cases	Paid per case	Estimated cost per case	Margin
Major bowel procedure	19,851	$32,004	$30,764	3.9%
Joint replacement	32,998	$20,343	$20,326	0.1%
Hip and femur fracture	25,813	$21,472	$21,899	–2.0%
Spinal fusion	5,446	$37,488	$35,158	6.2%
CABG	9,373	$53,491	$50,493	5.6%

Sources: CMS Medicare Inpatient and Outpatient Hospitals by Provider and Service, calendar 2024; CMS hospital cost reports (HCRIS), fiscal 2024; CMS TEAM participant list, September 2026. Hospital-level groups with fewer than 11 Medicare cases are suppressed by CMS, so counts understate volume. Margins are Medicare only; commercial payers typically pay more.

At the published working rate, 22 released minutes ($1,628) exceeds the average inpatient margin on these procedures. On an outpatient case, where Medicare already pays below estimated cost, it offsets most of the average shortfall.

7.4 WHERE THE OPERATING ROOM DOLLAR GOES

Every hospital's Medicare cost report records the same operating room lines. Nationally in fiscal 2024:

Operating room line (Form 2552-10)	All U.S. hospitals	715 TEAM hospitals
Staff pay (Worksheet A line 50, col 1)	$30.0 billion	$9.2 billion
Non-labor cost first recorded in the OR (col 2)	$78.4 billion	$21.7 billion
of which reclassified to implants (line 72)	$23.2 billion	$6.5 billion
of which reclassified to supplies charged to patients (line 71)	$17.9 billion	$4.7 billion
Direct OR cost after reclassification (col 7)	$56.8 billion	$16.3 billion
OR cost with overhead assigned (Worksheet C, col 1)	$99.6 billion	$28.9 billion

Source: CMS HCRIS hospital cost reports, fiscal 2024, short-term acute and critical access hospitals; reclassifications from Worksheet A-6. Overhead (administration, buildings, benefits, support) adds about 75% to 80% to direct OR cost, which is why a minute of OR time costs far more than the staff in the room.

7.5 THE WORKING ROI MODEL

Model line	Value	Basis
Composite working OR cost	$74 / minute	$33 + $29 + $12
OR minutes released per case (positioning-to-dock)	22 minutes	Reported by a high-volume da Vinci robotic program
Economic value of released OR time per case	$1,628	74 x 22
Incremental product cost per case	$50	Genesis less displaced method cost
Net financial benefit per case	**$1,578**	**Value less cost**
Break-even OR time	~41 seconds	50 / 74 x 60
Net annual benefit at 300 eligible cases	~$473,400	1,578 x 300
ROI multiple on incremental product cost	~31.6x	1,578 / 50

Working model per the Infinitus Genesis Bi-Wing OR Value Model 2026 (Rev. 2026-08). Facilities should validate the minutes input against their own EHR timestamps: handoff-to-incision, positioning-to-dock, dock-to-incision, and room turnover.

OR cost per minute by setting. Use the facility's own rate where it exists. Otherwise the 2026 reference rates below (Childers et al., JAMA Surgery 2018, inflation adjusted with the CMS IPPS market basket, about 68% from 2014 to 2026) bracket it. The staff-pay floor counts only the wages and benefits of released time and is the most conservative view.

Setting	OR cost per minute	Value of 22 minutes	Net per case after $50
Staff pay only (floor, 2014 dollars)	$14	$308	$258
General inpatient OR	$62 to $68	$1,364 to $1,496	$1,314 to $1,446
Hospital outpatient department	$66 to $82	$1,452 to $1,804	$1,402 to $1,754
Robotic OR suite	$74 to $90	$1,628 to $1,980	$1,578 to $1,930
Ambulatory surgery center	Facility rate	Facility rate x minutes	Less $50

7.6 ONE WORKED DRG EXAMPLE: COLORECTAL RESECTION

The method applies to any DRG. One example, using the 2026 Medicare national average payment for MS-DRG 331 (major small and large bowel procedures without CC/MCC, unadjusted for geography) from the Intuitive 2026 facility guide and an illustrative 210 minute case. Colorectal resection is also a TEAM major bowel episode.

MS-DRG 331, colorectal resection (no CC/MCC)	Current method	With Genesis
Medicare DRG payment	$12,246	$12,246
OR minutes	210	188
Revenue per OR minute	$58.31	$65.14
OR cost per minute (working model)	$74	$74
Product cost difference		$50
OR margin per case (OR time only)	**–$3,294**	**–$1,716**

OR margin counts OR time only (payment less OR minutes times cost per minute), not the full stay. At the fully loaded working rate, OR time alone on a 210 minute case costs more than the DRG pays; 22 released minutes close $1,578 of that gap, equal to the working model net benefit. Replace the payment, case time and OR rate with the facility's own. The companion workbook's DRG example tab offers 16 pelvic Trendelenburg DRGs from the same guide (colorectal 329 to 334, prostatectomy 707 and 708, gynecology 736 to 743); the minutes released apply equally across them.

7.7 VALIDATION WITH YOUR OWN DATA

The model is deliberately conservative and auditable. Every input maps to an EHR metric the facility already records, and the facility ROI formula generalizes: net benefit per case equals (OR cost per minute x minutes released) minus incremental product cost. At half the reported time savings (11 minutes) the net benefit is still $764 per case, roughly a 15x return; the conclusion does not depend on accepting the headline input.

Released time creates financial value when the facility uses it: an added case in the same staffed hours, overtime or late-room premium avoided, fewer agency staff hours, or rooms and block time released. Where none of these applies, the released time is capacity, and the staff-pay floor is the appropriate value. Appendix B and the companion workbook carry each of these choices as an input.

8 · TRUE COST PER CASE: PRODUCT PLUS PROCESS

The table below prices each method as the episode actually experiences it: product cost plus the process minutes that method consumes, valued at the $74 composite labor rate. Standard static pads average 5 to 25 minutes of positioning work per case, driven by patient weight across the thin-to-obese range: the higher end of that range reflects higher-BMI patients, whose drawsheet repositioning demands larger teams, greater force, and more attempts. Every one of those minutes is traceable in the EHR between anesthesia hand-off and incision. Minutes in the table are modeled mid-range values and illustrative only; they should be re-run against each facility's own EHR time-and-motion data over that same interval.

Every modeled pathway includes the full sequence required for a safe start of anesthesia and a correct final surgical position:

- Placement of the patient at the head of the table so the airway is immediately accessible for induction and intubation.
- Contrast with pre-positioning the patient already low on the table in lithotomy, which delays or compromises airway access and introduces a patient-safety risk.
- Arm abduction and arm-tuck processes after the patient is on the table.
- Transfer or slide of the patient into lithotomy after intubation, when that is the intended surgical position.

Do not treat "pad on table" set-up as the complete process. The cost of each method is the sum of the device plus every minute those steps consume.

Method (representative product)	Product cost	Process min (modeled)	Process cost @ $74	Modeled true cost / case
Static pad + drawsheet (illustrative static pad, $60)	Illustrative $60	15	$1,110	$1,170
Static premium kit + drawsheet (Pink Pad® XL)	Your price	15	$1,110	Your price + $1,110
Full-friction handled, manual lift (Safe Assist)	Your price	8	$592	Your price + $592
Engineered handled, slide (Hadron, $105)	$105	2	$148	$253
Engineered handled, slide (Genesis, $124)	$124	2	$148	$272
Air-assist combination (Xodus 40659 + blower amortization)	Your price	6	$444	Your price + $444
Integrated air-assist, blower-agnostic (PNEUMA, $180)	$180	3	$222	$402

Modeled, illustrative mid-range process minutes: drawsheet 15 (of the 5 to 25 evidence range), full-friction manual-lift handled 8, two-device air-assist assembly 6, engineered slide 2, integrated air-assist 3. Blower amortization should be added at the facility's actual blower cost amortized over its case volume. Injury-risk exposure ($28K to $47K per staff incident on repeated manual lifts) and staffing-draw costs are additional to the figures shown and weigh against manual methods. IMT rows shaded.

The BMI dependence prices out as follows, holding the $74 rate and each device's product cost constant across the same 5 to 25 minute range.

Patient profile	Process min (static + drawsheet)	Static $60 pad true cost	Genesis $124 true cost	Static cost premium
Thin (low end of range)	5	$430	$272	$158
Mid-range (modeled above)	15	$1,170	$272	$898
High BMI / obese (high end)	25	$1,910	$272	$1,638

The engineered method's cost is flat across the BMI range; the drawsheet method's cost more than quadruples with it. The patients who impose the highest process cost under the drawsheet method are exactly the patients the Section 504 qualified-staff duty contemplates.

Read together, the cheapest pad on the purchase order is the most expensive method in the episode: a $60 static pad carries a modeled true cost near $1,170 per case, while a $124 Genesis carries roughly $272. The $64 the buyer saves on price purchases about 52 seconds of OR time and then spends about 13 minutes of it, every case.

8.1 TRUE COST CALCULATOR: ENTER YOUR NUMBERS

For each row, enter your contracted product cost per case (A), your EHR-validated process minutes for that method (B), and your facility's composite working OR cost per minute (C); if a locally computed rate is not available, use the $74 composite rate developed in Section 7. True cost per case is then A + (B × C). Worked example: a $60 pad at 15 minutes and $74 per minute prices out at 60 + (15 × 74) = $1,170 per case. Yellow cells are facility inputs; IMT product costs are prefilled at contracted ASP and may be replaced with your own quoted price.

Method	A · Your product cost / case ($)	B · Your process minutes (EHR)	C · Your OR cost / minute ($)	True cost / case = A + (B × C)
Static pad + drawsheet		15	74	
Static premium kit + drawsheet (Pink Pad® XL)		15	74	
Full-friction handled, manual lift (Safe Assist)		8	74	
Engineered handled, slide (Hadron)	$105	2	74	
Engineered handled, slide (Genesis)	$124	2	74	
Air-assist combination (Xodus + blower amortization)		6	74	
Integrated air-assist, blower-agnostic (PNEUMA)	$180	3	74	

Default minutes match the modeled values above. The companion workbook (True cost tab) performs this arithmetic automatically: enter the same three inputs plus annual eligible case volume and it returns process cost, true cost per case, annual true cost, and each method's annual differential versus Genesis, recalculating live as prices and minutes change.

9 · ORTHOPEDIC EPISODES UNDER TEAM: ANTERIOR HIP AND ARTHROSCOPY

IMT's combined handling and positioning platforms are also used on anterior hip and arthroscopy traction tables, and two of TEAM's five episodes are orthopedic. The same economics apply: payment per case is fixed, and joint replacement and hip fracture surgery are now accountable through 30 days after discharge.

Procedure group (Medicare, calendar 2024, all hospitals)	Setting	Medicare cases	Paid per case	Estimated cost per case	Result per case
Joint replacement (MS-DRGs 462, 466 to 470, 483, 521, 522)	Inpatient	138,884	$20,763	$20,184	+$579
Hip and femur fracture surgery (MS-DRGs 480 to 482)	Inpatient	91,186	$20,009	$19,752	+$257
Musculoskeletal procedures incl. outpatient joints and arthroscopy (APCs 5111 to 5116)	Outpatient	781,557	$9,364	$10,445	–$1,081

Same sources and method as Section 7.3. At the 715 TEAM hospitals, joint replacement roughly breaks even on the stay ($20,343 paid against $20,326 estimated cost) and hip fracture surgery loses about 2%.

- **TEAM accountability.** Complications that lengthen the stay or lead to skilled nursing placement or readmission count against the episode target.
- **The outpatient shift.** Medicare now pays many hip and knee replacements as outpatient procedures, where the musculoskeletal procedure groups average a loss per case. Released minutes matter most where the margin is already negative.
- **Traction table handling.** Moving an anesthetized patient onto an anterior hip or arthroscopy table, setting boots and the perineal post, and repositioning under traction are multi-caregiver, high-force tasks that fall under the same AORN, OSHA, Section 504 and state SPH framework as Section 3.

Value per 10 minutes released per case is $140 at the staff-pay floor and $740 at the $74 working rate. Orthopedic time savings should be measured locally (in-room to incision, positioning start to prep, room turnover) rather than carried over from robotic Trendelenburg results.

10 · CONCLUSION AND RECOMMENDATION

For value analysis committees, this category rewards a four-question review rather than a price comparison.

1. What does the method cost the episode in minutes, at the facility's own OR rate and EHR-validated times?
2. Does the method meet the handling standards the facility is already accountable to: AORN Tool #1 above 157 lb, Tool #2 for positioning, OSHA's General Duty obligation, Section 504's qualified-staff duty, and any state SPH statute?
3. Under DRG, APC and TEAM payment, what does the case earn, and how much of that margin does the positioning method consume?
4. What is the five-year price trajectory of the incumbent, and is it contractually contained?

On the evidence assembled here, engineered handled systems and purpose-built integrated air-assist resolve the compliance exposure and return their incremental cost in under a minute of released OR time, while static drawsheet methods concentrate cost, risk, and escalation exactly where the purchase order cannot see them.

SAFE PATIENT HANDLING IS A TEAM EFFORT.

Equip your team with tools that support their safety and your standards. Protect your staff. Protect your patients. Protect your organization.

CHOOSE EQUIPMENT THAT WORKS AS HARD FOR YOUR TEAM AS THEY DO FOR YOUR PATIENTS.

11 · METHODOLOGY, SOURCES, AND DISCLAIMERS

Pricing. IMT from contracted IMT quotes; all competitor unit pricing (US Surgitech, Ninomed, Xodus, and Stryker Sage) is intentionally left to each facility's own contracts and purchase-order history, entered by the committee during review; product descriptors from manufacturer sites, FDA GUDID, and distributor listings, with unverified items flagged.

Standards. AORN Ergonomic Tool #1 (Waters et al., AORN Journal 2011;93(3):334-339) and AORN's published tool summaries; AORN Guidelines for Perioperative Practice 2024; OSHA General Duty Clause Sec. 5(a)(1) and healthcare ergonomics guidance; NIOSH Revised Lifting Equation; 45 C.F.R. Sec. 84.94 (eCFR current text) and HHS OCR guidance.

Financial model. Infinitus Genesis Bi-Wing OR Value Model 2026 and Genesis Bi-Wing OR Value Analysis 2026 (Rev. 2026-08); the 22-minute figure is reported by a high-volume da Vinci robotic surgery program and requires facility EHR validation. OR cost per minute from Childers et al., JAMA Surgery 2018, inflation adjusted with the CMS IPPS market basket. DRG payments are 2026 Medicare national average rates, unadjusted for geography, per the Intuitive 2026 facility guide (MAT10146 v2, 02/2026). Figures marked as IMT estimates derive from IMT engineering analysis and testing. True-cost minutes are modeled mid-range illustrations, not measurements.

Federal data. CMS Medicare Inpatient and Outpatient Hospitals by Provider and Service (calendar 2024); CMS hospital cost reports, HCRIS Form 2552-10 (fiscal 2024; Worksheets A, A-6 and C); CMS TEAM fact sheet, participant list (September 2026) and performance year 1 target price methodology; CMS BPCI Advanced final evaluation; AHRQ, Preventing Pressure Injuries in Hospitals (CMS cost estimate). Estimated cost per case applies each hospital's cost-to-charge ratio to its charges and is an approximation.

Scope. This document supports, and does not substitute for, each facility's own value analysis; compliance characterizations use exposure and support language, are not legal conclusions, and should be reviewed by counsel. Lift-capacity figures (800 lb; 1,200 lb XL with mechanical lift) are product-testing capabilities, not clinical scenarios. Genesis, Hadron, and PNEUMA are Class I, 510(k)-exempt devices, FDA product code CCX.

APPENDIX A · STATE SAFE PATIENT HANDLING STATUTES

Enacted state SPH laws and regulations, with worker-protection provisions noted. Statutory landscape as compiled from OSHA's safe patient handling resources and published state summaries; facilities should confirm current text for their jurisdiction.

State	Statute / regulation	Key provisions	Feature
Texas	SB 1525 (2005)	First state SPH law; hospitals and nursing homes must establish SPH policies, restrict manual handling to exceptional circumstances, and provide a process for nurses to refuse handling tasks believed in good faith to involve unacceptable risk of injury.	Refusal protected
Washington	HB 1672 (2006)	Hospitals must establish SPH committees and programs and complete acquisition of appropriate SPH equipment; equipment tax credit provided.	Tax credit
Rhode Island	H 7386 / S 2760 (2006)	SPH committee and program requirements; defines trained lift teams.	Lift teams
Maryland	SB 879 / HB 1137 (2007)	Hospitals must establish safe patient lifting committees and policies.	Committee
Minnesota	HB 712 (2007)	SPH program requirements with economic incentives.	Incentives
New Jersey	S-1758 / A-3028 (2008)	SPH practice act with regulatory oversight; nonretaliation provision protecting workers who refuse to lift or move a patient over reasonable safety concerns or lack of training or equipment.	Nonretaliation
Illinois	Hospital Licensing Act amendment (2009)	SPH policy requirements integrated into hospital licensing.	Licensing
California	AB 1136 (2011); Cal/OSHA Sec. 5120	Acute care hospitals must implement SPH policies, training, and lift teams or trained staff; prohibits discipline of workers who refuse handling tasks they consider unsafe.	Refusal protected
New York	Title 1-A, Article 29-D, Public Health Law (2014)	SPH program requirements for covered facilities.	Program required

Shaded rows: program requirements plus worker refusal or nonretaliation protection. Ohio HB 67 (2005), an interest-free equipment loan program for nursing homes, was repealed effective 2015 and is excluded. Missouri maintains SPH provisions through rules and regulations rather than statute. This table summarizes; it is not legal advice.

APPENDIX B · VALUE ANALYSIS WORKSHEET

Enter the facility's own numbers in the right-hand column. The working model column reproduces Section 7.5. The companion workbook, IMT Category Value Analysis Workbook 2026, performs every calculation live and adds the BMI mix, one-DRG example, scenario and true cost tabs.

Step	Input or result	Working model	Your facility
1 · Facility	Facility name; Medicare provider number (CCN); OR setting; TEAM participant (yes or no)		
2 · Volume	Annual eligible cases (all payers)	300	
	Measured minutes released per case (EHR: handoff to incision, positioning to dock)	22	
	Share of released time put to productive use (added cases, overtime, agency hours)	100%	
3 · Rate	OR cost per minute (facility rate, or Section 7.5 reference rate)	$74	
4 · Product	Genesis cost per case less current method cost per case	$124 – $74 = $50 *	
5 · Contract	Annual cost of changing: discounts lost on linked products, exit or conversion costs	$0	
6 · Per case	Released time value = minutes x rate	$1,628	
	Net benefit = released time value – incremental product cost	**$1,578**	
	Break-even seconds = incremental product cost ÷ rate x 60	41	
	Floor value = minutes x $14 – incremental product cost	$258	
7 · Per year	**Net annual benefit = cases x minutes x rate x share used – cases x product cost – contract cost**	**$473,400**	
	Net annual benefit at the staff-pay floor	$77,400	
	OR hours released = cases x minutes ÷ 60	110	

* The working model uses a $50 incremental product cost (Genesis Bi-Wing OR Value Model 2026). Enter the facility's actual cost of the current method, including reprocessing and losses. Estimates for planning, not guarantees; validate minutes with EHR timestamps.