

VALUE ANALYSIS



Examples Showing Time, Cost and Space Savings When Migrating TKA/THA Sets to **ONE TRAY®/EZ-TRAX™**.

VALUE ANALYSIS

An examination of savings in terms of Cost, Space, and Time.
Sterile Wrap vs. **ONE TRAY®/EZ-TRAX™**

INTRODUCTION

Each case example is a detailed value analysis of Cost, Space, and Time savings to hospital Operating Rooms (OR) and sterilization departments using **ONE TRAY®/EZ-TRAX™** vs. sterile wrapped trays. Each facility is identified only by location and operational capacity, with secondary designations for multiple facilities in the same state.

Each data set is an example based on the capacity and type of hospital. Exact figures may have been rounded for easy calculation to provide a general model of potential resource savings.

BACKGROUND

Example Data from Not-For-Profit Hospitals

Each example facility in this paper is a Nonprofit/Not-For-Profit corporation. According to the National Library of Medicine, "The majority of hospitals (which represents the majority of hospital beds) are organized and operated as nonprofit corporations. They are subject to the nonprofit corporation laws of the states in which they are incorporated."

The analysis included a survey of each facility, considering current costs, instrument sets required, processing time, and space requirements for each based on a given number of Total Knee Arthroplasty (TKA) procedures.

CASE 1

Name and Type of Hospital: Virginia-A, Level 2 Trauma Center

Size and Capacity: 453 Beds, 30 Operating Rooms

Current Operation

Currently, the facility and Vendor keep four (4) sets of TKA instruments as Consignment, totaling sixteen (16) instrument trays (four (4) TKA sets, four (4) instrument trays per set).

The sample valuation focused on a specific surgeon and vendor and targeted consignment trays that live at the facility. This surgeon performs 200 TKAs annually, which requires 800 sterile wrapped trays at \$200 per procedure or \$40,000 per year.

After use, reprocessing the four (4) sterile wrapped containers requires approximately 253 minutes (4 hours, 13 minutes). Each procedure requires four (4) TKA sets in sterile wrap containers, which, when stacked, stand 25 inches. In the operating room, the standard four (4) vendor trays, combined with the hospital instrument sets, necessitate two (2) sterile back table setups.

Operation Using ONE TRAY®/EZ-TRAX™

Two (2) **EZ-TRAX™** modular instrument trays replaced the four (4) TKA trays. Both **EZ-TRAX™** instrument trays were then placed in two (2), twenty-four (24) by four (4) inch, **ONE TRAY®** sterilization containers, as directed by the manufacturer's "Instructions For Use."

Projected Outcomes

To accommodate the stated 200 TKAs per year, this hospital would only require 400 **EZ-TRAX™** trays versus the current 800, costing \$120 per procedure or \$24,000 annually - an immediate 40% savings. Instead of four (4) sterile wrapped containers, they would only need two (2) **ONE TRAY®/EZ-TRAX™** units for each procedure, saving vertical sterile storage space of more than seventeen (17) inches.

A tight surgical schedule requires a more efficient processing time. Sterile processing for two (2) **ONE TRAY®/EZ-TRAX™** trays takes only 94 minutes, saving approximately 2 hours and 39 minutes over sterile wrapped vendor trays.

The capital required at this site is \$0.00,
and the 5 year savings is estimated at \$80,000.



VIRGINIA - LEVEL 2 TRAUMA CENTER - VALUE ANALYSIS

200 TKAs Annually

CURRENT

Instrument sets processed
in sterile wrap annually

800 TRAYS



PROJECTED

Instrument sets processed
in EZ-TRAX™ annually

400 TRAYS



CURRENT

Cost per procedure

\$200

PROJECTED

Cost per procedure

\$100

SAVINGS \$100

COST

Cost to process trays annually

\$40,000

PROJECTED

Cost to process trays annually

\$24,000

SAVINGS \$16,000

**1'7" OF SPACE
SAVED**

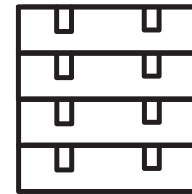


1 set in
Sterile Wrap

25"

1 set in
EZ-TRAX™/ONE TRAY®

8"



ELIMINATE A 2 LEVEL TABLE



TIME SAVINGS

4 WRAP vs 2 EZ-TRAX™ TRAYS



(EZ-TRAX™/ONE TRAY®)

Time (SPD)	Min/Tray	Total
Decon	60	60
Washer	30	30
Set up	5	20
Sterilization	20	20
Dry Time	40	40
Cool Time	75	75
TOTAL TIME = 253 MINUTES		

Time (SPD)	Min/Tray	Total
Decon	30	30
Washer	30	30
Set up	5	10
Sterilization	20	20
Dry Time	0	0
Cool Time	0	0
TOTAL TIME = 94 MINUTES		

SAVINGS 2 HRS 39 MIN

Per Case

INVESTMENT

PROJECTED INVESTMENT \$0

OVERALL SAVINGS



200 PROCEDURES



12 MONTHS

**YR 1 SAVINGS
YR 3 SAVINGS**

**\$16,000
\$48,000**

YR 5 SAVINGS

\$80,000

CASE 2

Name and Type of Hospital: Pennsylvania-A, Level 1 Trauma Center

Size and Capacity: 224 Beds, 30 operating Rooms

Current Operation

For this example, the focus was on a specific vendor and surgeon, performing 400 TKAs annually. Six (6) sets of seven (7) sterile wrapped trays are currently on hand, taking up 14 feet of sterile storage space.

Each procedure requires 304 minutes for reprocessing, mostly spent during the sterilization (75 minutes) and cooling cycles (60 minutes). Once completed and reset, the stacked trays take up 28 inches of sterile shelf space per TKA set, requiring two OR tables in the Operating Suite. A total of 2800 sterile wrapped trays are reprocessed each year at a cost of \$350 per procedure, or \$140,000.

Operation Using ONE TRAY®/EZ-TRAX™

In this case, seven (7) sterile wrapped trays were replaced by three (3) **EZ-TRAX™** modular instrument trays. Each was packaged in twenty-four (24) by four (4) inch **ONE TRAY®** sterilization containers. All procedures followed the manufacturer's directions based on their "Instructions For Use."

Projected Outcomes

The change to **ONE TRAY®/EZ-TRAX™** offers a projected cost of just \$150 per procedure or \$60,000 per year.

Storage space is at a premium as well. **ONE TRAY®** takes up only twelve (12) inches of vertical space for each vendor set saving 8ft of sterile storage space. Also, the OR was able to eliminate one (1) of the two (2) back tables from their standard setup.

A tight surgical schedule means that sterile processing time is also critical. **ONE TRAY®/EZ-TRAX™** requires only 141 minutes of reprocessing per tray, with only 20 of that in sterilization and zero drying time, leading to a projected time savings of more than 2 hours and 43 minutes per case.

The capital required at this site is \$0.00,
and the 5 year savings is estimated at \$400,000.

PENNSYLVANIA-A, LEVEL 1 TRAUMA CENTER - VALUE ANALYSIS

400 TKA's Annually

CURRENT

Instrument sets processed
in sterile wrap annually

2800 TRAYS



PROJECTED

Instrument sets processed
in **EZ-TRAX™** annually

1200 TRAYS



CURRENT

Cost per procedure

\$350

PROJECTED

Cost per procedure

\$150

SAVINGS \$200

CURRENT

Cost to process trays annually

\$140,000

PROJECTED

Cost to process trays annually

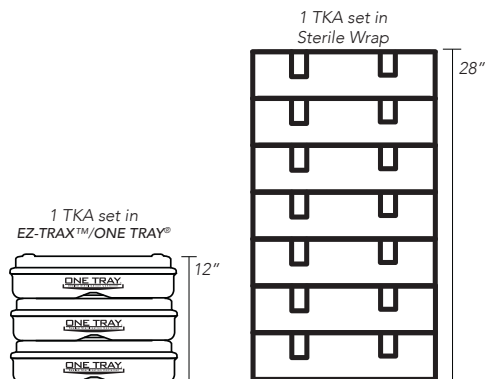
\$60,000

SAVINGS \$80,000



8FT OF SPACE SAVED

Based on 6 Total Knee Sets



TIME SAVINGS

7 TRAYS vs 3 EZ-TRAX™ TRAYS



(EZ-TRAX™/ONE TRAY®)

Time (SPD)	Min/Tray	Total
Decon	60	60
Washer	60	60
Set up	5	35
Sterilization	75	75
Dry Time	60	60

Time (SPD)	Min/Tray	Total
Decon	40	40
Washer	60	60
Set up	5	15
Sterilization	20	20
Dry Time	0	0

Time (OR)	Min/Tray	Total
Opening	1	7
Breakdown	1	7
TOTAL TIME = 304 MINUTES		

Time (OR)	Min/Tray	Total
Opening	1	3
Breakdown	1	3
TOTAL TIME = 141 MINUTES		

SAVINGS 2.72 HOURS

Per Case

ADDED BENEFITS

ELIMINATE A BACK TABLE



INVESTMENT

PROJECTED INVESTMENT \$0.00

OVERALL SAVINGS



100 PROCEDURES

(33 per month)



3 MONTHS



YR 1 SAVINGS

\$80,000

YR 3 SAVINGS

\$240,000

YR 5 SAVINGS

\$400,000

CASE 3

Name and Type of Hospital: Pennsylvania-B, Level 1 Trauma Center

Size and Capacity: 293 Beds, 30 operating Rooms

Current Operation

This facility currently performs 600 TKAs each year and processes 3600 sterile wrapped instrument sets. Each set requires six (6) sterile wrapped TKA sets per procedure, taking up 192 inches of vertical storage space and two (2) back tables in the operating room.

Reprocessing takes 285 minutes (4 hours, 45 minutes) for six (6) of the current sterile wrapped trays. Sterilization and cooling times create the most significant delay, totaling 135 minutes. Due to the volume of procedures and instrument sets, reprocessing costs \$300 per procedure or \$180,000 per year.

Operation Using ONE TRAY®/EZ-TRAX™

Only three (3) **ONE TRAY®/EZ-TRAX™** sets were required to replace the six (6) TKA instrument trays currently in stock. This included the installation of each of the **EZ-TRAX™** instrument sets in the twenty-four (24) by four (4) inch **ONE TRAY®** sterilization trays. All setups followed the manufacturer's specified directions in the "Instructions For Use."

Projected Outcomes

Using **ONE TRAY®/EZ-TRAX™**, only 1800 trays will be needed for 600 TKAs, taking up just 72" or six (6) feet of sterile storage space and eliminating one back table in the operating room.

Reprocessing time is also reduced to 141 minutes, with no drying time, and only 20 minutes in sterilization. Compared to sterile wrapped trays, time saved equalled two (2) hours and twenty-four (24) minutes and reduces the cost per procedure to \$150, cutting cost in half.

The capital required at this site is \$0.00,
and the 5 year savings is estimated at \$450,000.

PENNSYLVANIA-B, LEVEL 1 TRAUMA CENTER - VALUE ANALYSIS

600 TKA's Annually

CURRENT

Instrument sets processed
in sterile wrap annually

3600 TRAYS



PROJECTED

Instrument sets processed
in EZ-TRAX™ annually

1800 TRAYS



CURRENT

Cost per procedure

\$300

PROJECTED

Cost per procedure

\$150

SAVINGS \$150

CURRENT

Cost to process trays annually

\$180,000

PROJECTED

Cost to process trays annually

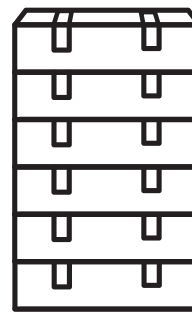
\$90,000

SAVINGS \$90,000



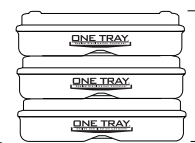
10 FT OF SPACE SAVED

1 TKA Set
in Sterile Wrap



32" x 6 sets = 192"

1 TKA Set in
EZ-TRAX™/ONE TRAY®



12" x 6 sets
= 72"

TIME SAVINGS

6 TRAYS vs 3 EZ-TRAX™ TRAYS



(EZ-TRAX™/ONE TRAY®)

Time (SPD)	Min/Tray	Total
Decon	60	60
Washer	60	60
Set up	5	30
Sterilization	75	75
Dry Time	60	60
Time (OR)	Min/Tray	Total
Opening	1	6
Breakdown	1	6

TOTAL TIME = 285 MINUTES

Time (SPD)	Min/Tray	Total
Decon	40	40
Washer	60	60
Set up	5	15
Sterilization	20	20
Dry Time	0	0
Time (OR)	Min/Tray	Total
Opening	1	3
Breakdown	1	3

TOTAL TIME = 141 MINUTES

SAVINGS 2.40 HOURS

Per Case

ADDED BENEFITS

ELIMINATE A BACK TABLE



INVESTMENT

PROJECTED INVESTMENT \$0.00

INVESTMENT RECOVERY



150 PROCEDURES

(@48 per month)



3 MONTHS

YR 1 SAVINGS

YR 3 SAVINGS

\$90,000

\$270,000

YR 5 SAVINGS

\$450,000

CASE 4

Name and Type of Hospital: Pennsylvania-C, Level 3 Trauma Center

Size and Capacity: 115 Beds, 7 operating Rooms

Current Operation

This example focuses on a specific surgeon who performs 120 TKAs annually, using seven (7) vendor instrument trays per procedure. Reprocessing the necessary 840 sterile wrapped trays costs the facility \$350 per procedure, or \$42,000 annually.

Current OR setup and breakdown time of seven (7) vendor trays requires seven (7) minutes per TKA, and requires 304 minutes (5 hours, 4 minutes) in sterile processing to reprocess seven (7) instrument trays. Each tray spends 135 minutes of that time in sterilization process.

The three (3) sets of seven (7) consigned sterile wrapped instrument trays that are stored on the shelf require 96" of vertical sterile storage space and require two back tables in the OR.

Operation Using ONE TRAY®/EZ-TRAX™

To meet the function of seven (7) sterile wrapped instrument trays, only three (3) **EZ-TRAX™** instrument trays are needed. Each was placed in a twenty-four (24) by four (4) inch **ONE TRAY®** sterilization container as directed in the manufacturer's "Instructions For Use."

Projected Outcomes

Migrating to **ONE TRAY®/EZ-TRAX™** immediately reduces the number of instrument trays per procedure to 3. The associated cost of reprocessing all 360 trays is cut by more than half, and the annual projected savings on reprocessing comes in at \$24,000.

Fewer trays also require less storage space. All three (3) sets of (3) vendor trays housed in **ONE TRAY®/EZ-TRAX™** trays only occupy 36" of sterile storage space AND eliminated the need for a second back table. .

Reprocessing time is vital to keeping a surgical schedule. Each TKA set housed in **ONE TRAY®/EZ-TRAX™** trays can be reprocessed in just 141 minutes, with no dry time and a 20-minute sterilization cycle.

The capital required at this site is \$0.00,
and the 5 year savings is estimated at \$120,000.



PENNSYLVANIA-C, LEVEL 3 TRAUMA CENTER - VALUE ANALYSIS

CURRENT
Instrument sets processed
in sterile wrap annually
840 TRAYS



PROJECTED
Instrument sets processed
in EZ-TRAX™ annually
360 TRAYS



CURRENT
Cost per procedure
\$350



PROJECTED
Cost per procedure
\$150

SAVINGS \$200

CURRENT
Cost to process trays annually
\$42,000

PROJECTED
Cost to process trays annually
\$18,000

SAVINGS \$24,000



TIME SAVINGS

7 TRAYS vs 3 EZ-TRAX™ TRAYS



(EZ-TRAX™/ONE TRAY®)

Time (SPD)	Min/Tray	Total
Decon	60	60
Washer	60	60
Set up	5	35
Sterilization	75	75
Dry Time	60	60

Time (OR)	Min/Tray	Total
Opening	1	7
Breakdown	1	7

TOTAL TIME = 304 MINUTES

Time (SPD)	Min/Tray	Total
Decon	40	40
Washer	60	60
Set up	5	15
Sterilization	20	20
Dry Time	0	0

Time (OR)	Min/Tray	Total
Opening	1	3
Breakdown	1	3

TOTAL TIME = 141 MINUTES

SAVINGS 2.72 HOURS

Per Case

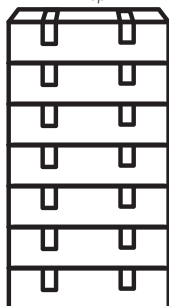
ADDED BENEFITS

ELIMINATE A BACK TABLE



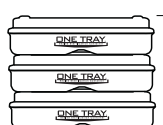
5FT OF SPACE SAVED

1 Knee in Sterile
Wrap



32" x 3 = 96"

1 Knee in
EZ-TRAX™/ONE TRAY®



12" x 3
= 36"

INVESTMENT

PROJECTED INVESTMENT \$0.00

INVESTMENT RECOVERY



36 PROCEDURES
(@10 per month)



3.6 MONTHS

YR 1 SAVINGS
YR 3 SAVINGS



\$25,000
\$72,000

YR 5 SAVINGS

\$120,000

CONCLUSION

As the sample data shows, the results of migrating each facility from sterile wrapped trays to **ONE TRAY®/EZ-TRAX™** increases efficiency and saves time, cost and space..

By reducing the reprocessing time and minimizing the need for sterile storage space, **ONE TRAY®/EZ-TRAX™** can free up staff both in the OR and the SPD.

Any facility concerned with the high costs of purchasing, maintaining, and reprocessing sterile wrapped trays should consider a migration to **ONE TRAY®/EZ-TRAX™**. Given similar data presented here, a value analysis could provide great insight into the savings and improved outcomes of a change to **ONE TRAY®/EZ-TRAX™**.

These four value analysis examples were generated and created by Mark Copeland of 3T Medical Systems.

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