Enhanced Recovery After Surgery
Kaiser Permanente NCAL Journey
IHI Forum 2015

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Get Up, Get Moving, Get Better!
Session Objectives

- Explain the principles of Enhanced Recovery After Surgery and how they come together to improve patient care

- Describe an implementation strategy for testing, optimizing, spreading, and measuring change across a region
No Presenter Disclosures
Phyllis
Why Now?
So many initiatives, so little time…

Overall Improved Health Outcomes

- Reduced Transfusions
- Reduced UTI
- Reduced VTE
- Reduced HAP
- Decrease Delirium
- Improved pain management
- Reduced LOS
- Stable/Improved readmission rates
- Improved patient satisfaction

Patient-Centered Care ➔ Patient-Driven Care
An innovation from the ground up
What is ERAS?
Reducing Surgical Stress & Disruption to Baseline Physiology

Traditional Surgical Pathway & Recovery

Surgery

ERAS

Physiological function

Time

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Not Physiologic

NPO After Midnight
Bed rest/Non mobilization
Nausea/Vomiting
Post Operative Pain
Tubes/Drains
In land Salt Water Drowning
ERAS is…

- Minimize Opioids
- Feed Early
- Walk Early
Design: What did we do differently?
How we told the story
How we created the clinical pathways

- Multidisciplinary Subject Matter Expert (SME) Workgroup conducts extensive review of literature and internal operations

SME Workgroup

- Surgery
- Anesthesiology
- Pharmacy
- POM
- HBS
- PT
- Nursing
- Quality & Safety
- ED
How we tested, learned, and rolled out

**Site 1**
- Local Planning/Prep (1 month)
- Colo-rectal Only
- Continue Colo-rectal
- + Add Hip Fx

**Site 2**
- Hip Fx Only
- Continue Hip Fx
- + Add Colo-rectal

**Early Adopter sites** who are independently testing & optimizing various parts of the pathways

To facilitate rapid testing & learning cycles, regional consultants will facilitate biweekly calls & monthly calls with early adopters

**Alpha Testing (~ 3mos)**
- 1 month check-in point to evaluate learnings & add 2nd pathway for alpha sites

6 months later:
- Regional Summit: 21 Med Ctrs
ERAS Summit ~ 400 participants from across NCAL
Scale & Spread (Regional Implementation)

Regional Summit (June 30) → Local Planning → 1st Pathway 6 weeks later → 2nd Pathway 6 weeks later
# How we empowered patients

## My Calendar: Recover Safely and Quickly

Follow these steps before and after your colon surgery.

<table>
<thead>
<tr>
<th>Night before surgery</th>
<th>Morning of surgery</th>
<th>4 to 6 hours after surgery</th>
<th>First day after surgery</th>
<th>Second day after surgery - discharge</th>
<th>After discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue, if prescribed by doctor</td>
<td>Continue, if prescribed by doctor</td>
<td>IV medicines</td>
<td>Pain medicine by mouth</td>
<td>Pain medicine by mouth</td>
<td>Pain medicine by mouth</td>
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<tr>
<td>Oral Care</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Brush and floss teeth</td>
<td>Brush and floss teeth</td>
<td>Use mouthwash</td>
<td>Brush and floss teeth</td>
<td>Brush and floss teeth</td>
<td>Brush and floss teeth</td>
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<tr>
<td>Skin Care</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Shower</td>
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<tr>
<td>Don’t shave</td>
<td></td>
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<td></td>
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<tr>
<td>Use provided skin wipes</td>
<td>Use provided skin wipes</td>
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<td></td>
<td></td>
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<tr>
<td>Diet</td>
<td></td>
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</tr>
<tr>
<td>No solid food as directed by your surgeon</td>
<td>Clear fluids, including carbohydrate drinks until 2 hours before surgery</td>
<td>Eat soft, easy-to-digest foods after surgery</td>
<td>Eat soft, easy-to-digest foods</td>
<td>Eat solid foods as tolerated</td>
<td>Eat solid food</td>
</tr>
<tr>
<td>Activity</td>
<td></td>
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<tr>
<td>Walk</td>
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<tr>
<td>Don’t smoke</td>
<td></td>
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<tr>
<td>Online relaxation tools</td>
<td>Use provided skin wipes</td>
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<tr>
<td>Incentive Spirometer</td>
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<td>10 times each hour when awake</td>
<td>10 times each hour when awake</td>
<td>10 times each hour when awake</td>
<td>10 times each hour when awake</td>
<td>10 times each hour when awake</td>
<td>10 times each hour when awake</td>
</tr>
<tr>
<td>Treatments</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bowel prep, if prescribed by doctor</td>
<td>Bowel prep, if prescribed by doctor</td>
<td>Devices to prevent blood clots</td>
<td>Urinary catheter removed</td>
<td>Instructions in discharge information</td>
<td>Follow discharge instructions</td>
</tr>
</tbody>
</table>
# How we created “Mentor” roles

<table>
<thead>
<tr>
<th>Mentor 1</th>
<th>Mentor 2</th>
<th>Mentor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT</td>
<td>FRE</td>
<td>FRS</td>
</tr>
<tr>
<td>RWC</td>
<td>ROS</td>
<td>OAK</td>
</tr>
<tr>
<td>SFO</td>
<td>SAC</td>
<td>MAN</td>
</tr>
<tr>
<td>SRF</td>
<td>SLN</td>
<td>MOD</td>
</tr>
<tr>
<td>SRO</td>
<td>SSC</td>
<td>SCL</td>
</tr>
<tr>
<td>SRF</td>
<td>VAL</td>
<td>SJO</td>
</tr>
<tr>
<td>WCR</td>
<td>VAC</td>
<td>RCH</td>
</tr>
</tbody>
</table>
How we embedded practice into IT

- Started with paper and pencil until we knew we had it right

- To date: 13 ERAS ordersets released for our EMR

- ERAS “flag” triggers patient banner & populates patient lists

Decision Support: Making the right thing easier to do
How we approached data analytics & reporting

- Comprehensive measurement strategy

- Intrinsically tied to clinical pathways
How we leveraged healthcare informatics to enable rapid PI

- Capitalize on rich EMR
- Fully administrative approach
- Support PI at all levels within organization

Macro: at-a-glance performance across all measures, identify variation across all hospitals

Micro: weekly patient-level burst reports to local care improvement teams
Roseville Story
ERAS on the ground: What it took to capture the magic!

- Overcame short time frame to implement the project
- Enhanced patient communication
- Breaking down of silos
- New paradigm for how the entire health care team practices
- Common focus and purpose
- Framing the experience for our patients and families
Celebrating Successes Big & Small
How do we know it works?
Patients have a notably improved recovery experience

This was a night and day difference from the last time I had surgery.

My neighbor/friend was in the hospital for days. I was all ready to go home!

Let me know if you ever need me to be in a Kaiser commercial.

I was worried about having to get the patients up so early after surgery, but they were actually easier to mobilize! They were more alert, and their pain better managed.

Every patient should be an ERAS patient!
Statistically significant sustained results

- Faster Recovery
- Fewer Complications
- Hardwired Practices
Faster Recovery with Less Harm

Colorectal-Average Hospital LOS (days)
ERAS Colorectal-ALOS = ALL

Baseline Full Implementation

Colorectal-Harm Free Surgery
ERAS Colorectal-Harm Free Surgery = ALL

Baseline Full Implementation

Hip Fx-Average Surgical LOS (days)
ERAS Hip Fx-ALOS Surgical = ALL

Baseline Full Implementation

Hip Fx-Harm Free Surgery
ERAS Hip Fx-Harm Free Surgery = ALL

Baseline Full Implementation
Significant Increased Adoption of Multimodal Pain Management

Colorectal-Multimodal Analgesia
ERAS Colorectal Multimodal = ALL

Hip Fx-Multimodal Analgesia
ERAS Hip Fx Multimodal = ALL

Total Hip-Multimodal Analgesia
ERAS Total Hip Multimodal = ALL

Total Knee-Multimodal Analgesia
ERAS Total Knee Multimodal = ALL
Significant Reduction in Total Opioid Use

Colorectal-Morphine Equivalence
ERAS Colorectal-Morphine Equivalence = ALL

Total Hip-Morphine Equivalence
ERAS Total Hip Morphine Equivalence = ALL

Hip Fx-Morphine Equivalence
ERAS Hip Fx-Morphine Equivalence = ALL

Total Knee-Morphine Equivalence
ERAS Total Knee-Morphine Equivalence = ALL
Significant Increase in Early Feeding Postop

Colorectal-Early Feeding w/in 12 Hrs
ERAS Colorectal Early Feeding = ALL

Total Hip-Early Feeding w/in 12 Hrs
ERAS Total Hip-Early Feeding = ALL

Hip Fx-Early Feeding w/in 12 Hrs
ERAS Hip Fx Early Feeding = ALL

Total Knee-Early Feeding w/in 12 Hrs
ERAS Total Knee-Early Feeding = ALL
Significant Increase in Early Ambulation

Colorectal-First Ambulation w/in 12 Hrs
ERAS Colorectal-First Ambulation = ALL

Hip Fx-First Ambulation w/in 12 Hrs
ERAS Hip Fx-First Ambulation = ALL

Total Hip-First Ambulation w/in 12 Hrs
ERAS Total Hip-First Ambulation = ALL

Total Knee-First Ambulation w/in 12 Hrs
ERAS Total Knee-First Ambulation = ALL
Significant Increase in Continued Ambulation (POD1 – POD3)

Colorectal-Sustained Ambulation
ERAS Colorectal-Sustained Ambulation = ALL

Total Hip-Sustained Ambulation
ERAS Total Hip-Sustained Ambulation = ALL

Hip Fx-Sustained Ambulation
ERAS Hip Fx-Sustained Ambulation = ALL

Total Knee-Sustained Ambulation
ERAS Total Knee-Sustained Ambulation = ALL
Where we’re headed
Vision: Enhanced Recovery Hospitals

2014
Colorectal & Hip Fx
~4500 annual cases total

2015
Colorectal & Hip Fx
~4500 annual cases total
Total Knees & Hips
~12,000 annual cases total
...
Other Surgeries
Medical patients

Destination
Enhanced Recovery Hospital
It Takes a Village!

We would like to extend a special Thank You to:

- The Gordon and Betty Moore Foundation
- ERAS Executive Sponsors
- ERAS Steering Committee
- Quality and Operations Support
- Patient Care Services, Quality & Safety, NSQIP
- Regional Health Education
- KP HealthConnect

...And countless other subject matter experts and frontline collaborators who have and continue to make this work possible!
Questions? Comments?