

**THE PREOPERATIVE CONTINUUM OF CARE**  
**A CLOUD-BASED SOLUTION**  
**THAT SPANS SUBSPECIALTIES**





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**Noshin Nushat**  
**Gabirla Batista**



## Preoperative Evaluation

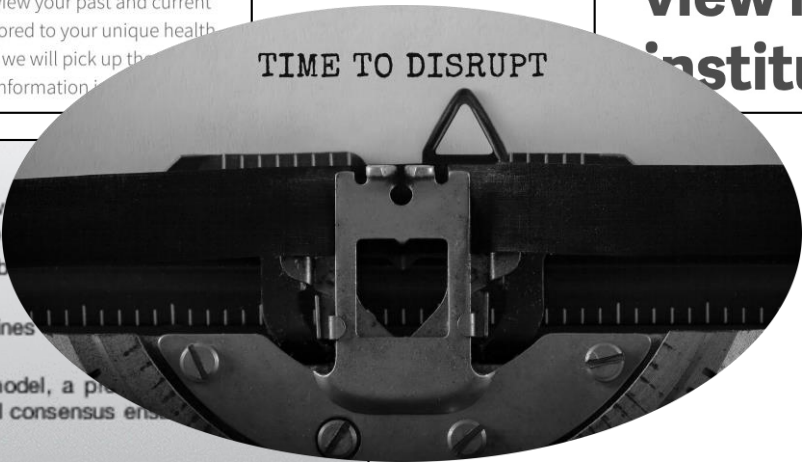
Go to:

Preoperative evaluation is a process of clinical assessment that precedes the delivery of anesthesia care for surgery and non-surgical procedures. At the very least, it includes a review of medical records and recent test results, a comprehensive medical history, and a physical examination of the cardiovascular system, the pulmonary system, and the airway. As the preoperative evaluation is considered a basic element of anesthetic care, it is often performed in the immediate preoperative period (ie, on the day of surgery), by the anesthesiologist. However, the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation recommends that patients with high disease severity and those undergoing procedures with high surgical invasiveness be evaluated prior to the day of surgery.<sup>5</sup>

**ACS NSQIP®/AGS  
BEST PRACTICE GUIDELINES:  
Optimal Preoperative Assessment  
of the Geriatric Surgical Patient**

# Nuts and bolts of preoperative clinics: The view from three institutions

When you visit us, we will obtain a detailed medical history and review your past and current test results and medications to create an anesthesia care plan tailored to your unique health needs. We thoroughly review your records from other doctors, and we will pick up the phone and call your other providers to get clarification on any confusing information.



PREOPERATIVE PROGRAMS IN ANESTHESIOLOGY

- KEY POINTS**
- The primary goal of a preoperative program is to provide clinical optimization in a comprehensive manner to prepare the patient for surgery.
  - Preoperative care is best delivered in a centralized, multidisciplinary environment.
  - Communication and collaboration across service lines are essential for success.
  - Although there is no single universally accepted model, a program with evidence-based protocols supported by institutional consensus ensures that objectives will be met.

## Based on the information obtained, the attending anesthesiologist decides whether the patient is ready for surgery.

The pre-operative assessment clinic is a nurse-led clinic that specialises in preparing patients for their planned surgery. A pre-operative assessment is performed on all patients who are going to have an operation or a surgical procedure.

The type of the pre-assessment clinic appointment depends on the nature of the planned surgery and the patient's medical history, including any problems that may influence your preparation for and recovery from surgery.

## Preoperative Assessment Center

Preoperative Assessment Center (PAC) - A comprehensive clinic, directed by the anesthesia department, that provides a comprehensive preoperative assessment and optimization for patients undergoing surgery.

Go to:

## Management of Coexisting Disease

### Coronary Artery Disease

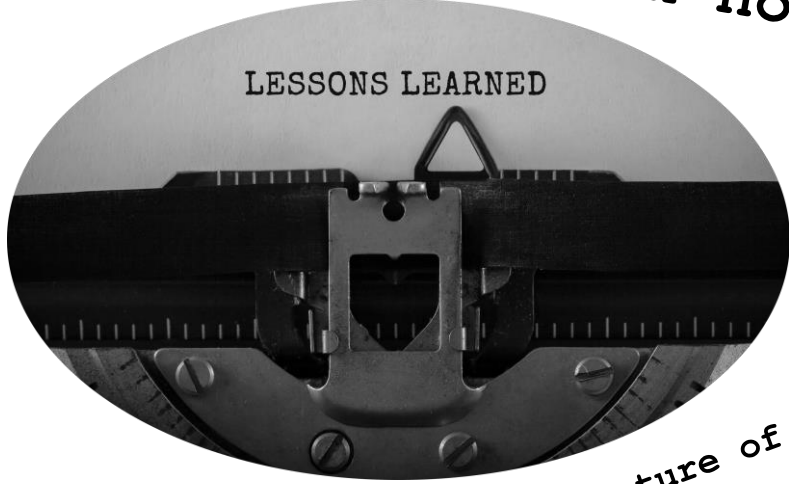
Coronary artery disease (CAD) increases the risk of perioperative morbidity and mortality, especially in the context of a recent myocardial infarction (MI) or coronary revascularization (CABG or PCI). For patients who have had a recent MI (within six months), the risk of both MACE and mortality is highest in the first 30 days following the MI (32.8% and 14.2%, respectively).<sup>15</sup> These patients are also at an eight-fold increased risk of stroke.<sup>16</sup> It is therefore recommended that elective, non-cardiac surgery be delayed for at least 60 days following an MI without coronary intervention.

## Value of Preoperative Clinic Visits: Impact on Operating Room Efficiency

No plan is there to share information

Everyone involved?

PCP Evaluation not standardized



Centralized data?

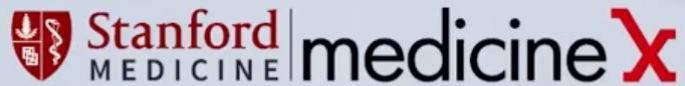
Where is nature of the surgery included?

Anesthesia, and it's concerns run preoperative assessments



# WHAT WE DID...

- Isolated key data points of specific interest to all parties in the preop process
- Programmed tables on low code, open API, cloud system
- Interviewed key stakeholders to assess views they would need to see
- Integrated Anesthesia, Surgeon, and Pre-op Internist in the patient's interests
- Developed data entry plan
- Extended database to mobile environment



**Ira Kirschenbaum**

*Chairman, Orthopaedic Surgery, Director of Surgical Operations, Bronx-Lebanon Hospital Center*

**Medicine X Story of Impact:  
A Low Code Database**



Low-code, open API databases allow point-of-care development of IT solutions by caretakers with the ability to make rapid, real-time changes and customize to each party involved.





# HEALTHCARE

TrackVia helps healthcare organizations gain real-time operational visibility & control through better data collection, custom reporting, & automated workflows.

**SurgiTrak Main**

**Add Fields**

Search for a field

**Included Fields**

Search for a field

- ALL
- TEXT FIELDS
  - Single Line
  - Paragraph
- NUMERIC FIELDS
  - Number
  - Percentage
  - Currency
  - Auto Counter
- CHOICE FIELDS
  - Drop Down List
  - Checkboxes

**Included Fields**

- Last Name Single Line
- First Name Single Line
- MR # Single Line
- Acct # on day of booking Single Line
- DOB Date
- Age Triggered Number
- Gender Drop Down List
- Surgeon Drop Down List
- First Assistant Drop Down List

**New Record**

Dr. K Dr. M Dr. Au Dr. S Dr. Al Dr. Ay Dr. W Dr. Le Dr. SB Dr. FF Rounds Tracker More

SAVE CHANGES SAVE AND ADD NEW

**Last Name** **First Name** **MR #** **DOB**

**Surgeon** **First Assistant** **Acct # on day of booking** **Age**

**Referring/Primary MD** **Contact Info**

**Timeline Checklist**

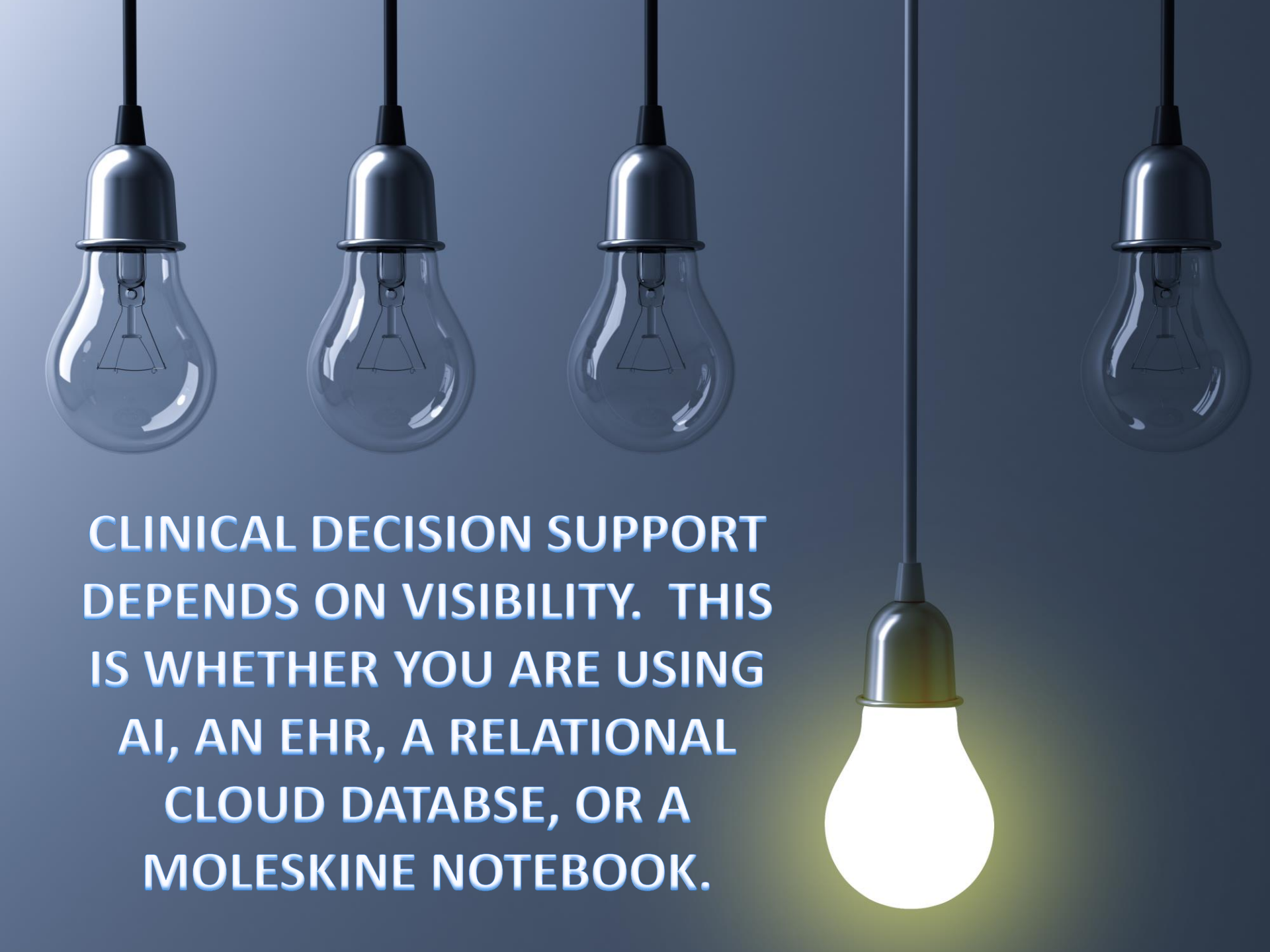
- Surgical Date Set
- Labs Completed
- PAT Completed
- Post-op Appt Given
- Auth Complete

**Surgery Status \*** **Surgery Status Notes** **MRI Location**



**TRACKVIA®**



The image features five incandescent light bulbs hanging from the ceiling against a dark blue background. The bulbs are arranged in a horizontal line. The bulb on the far right is illuminated, casting a warm glow, while the other four bulbs are unlit. The text is positioned to the left of the lit bulb.

**CLINICAL DECISION SUPPORT  
DEPENDS ON VISIBILITY. THIS  
IS WHETHER YOU ARE USING  
AI, AN EHR, A RELATIONAL  
CLOUD DATABASE, OR A  
MOLESKINE NOTEBOOK.**




The Journal of Arthroplasty  
Volume 33, Issue 12, December 2018, Pages 3642-3648



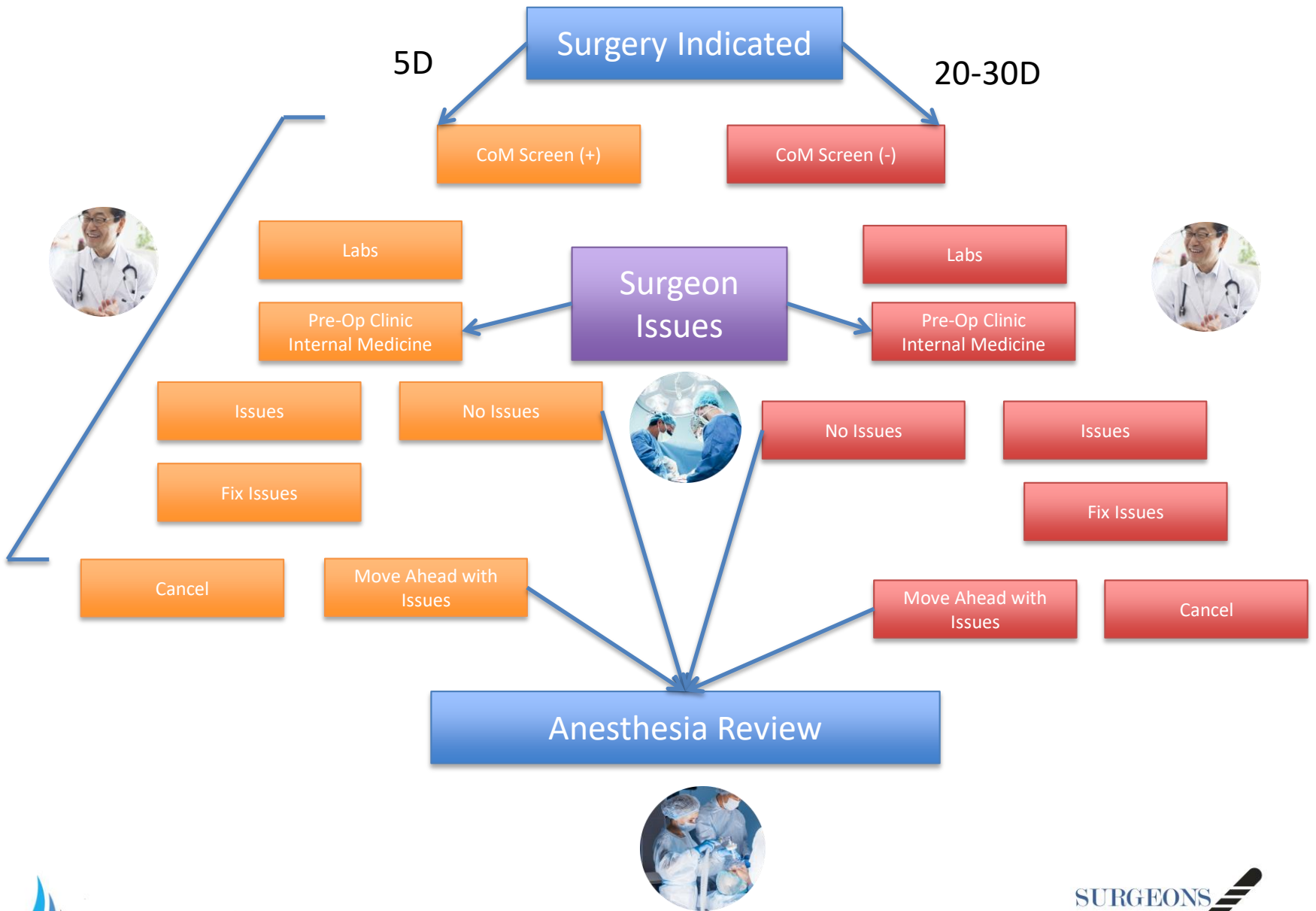
Primary Arthroplasty

# Evaluation of a Preoperative Optimization Protocol for Primary Hip and Knee Arthroplasty Patients

David N. Bernstein MBA, MA <sup>a</sup>, Tiffany C. Liu MD <sup>b</sup>, Angela L. Winegar PhD <sup>c</sup>, Lauren W. Jackson MPAff <sup>d</sup>, Jessica L. Darnutzer MSN, NP-C <sup>e</sup>, Kelsey M. Wulf MSN, FNP-BC <sup>f</sup>, John T. Schlitt MD <sup>e</sup>, Mauricio A. Sardan MD <sup>e</sup>, Kevin J. Bozic MD, MBA <sup>g</sup> 







**YOUR PREOPERATIVE JOURNEY PLACES THE PATIENT ON A SHIP  
WITH THE PRE-OP INTERNIST, SURGEON, AND  
ANESTHESIOLOGIST. THERE ARE NO PCP'S AROUND TO HELP-  
DECISIONS NEED TO BE MADE RAPIDLY, ALMOST REAL-TIME.**



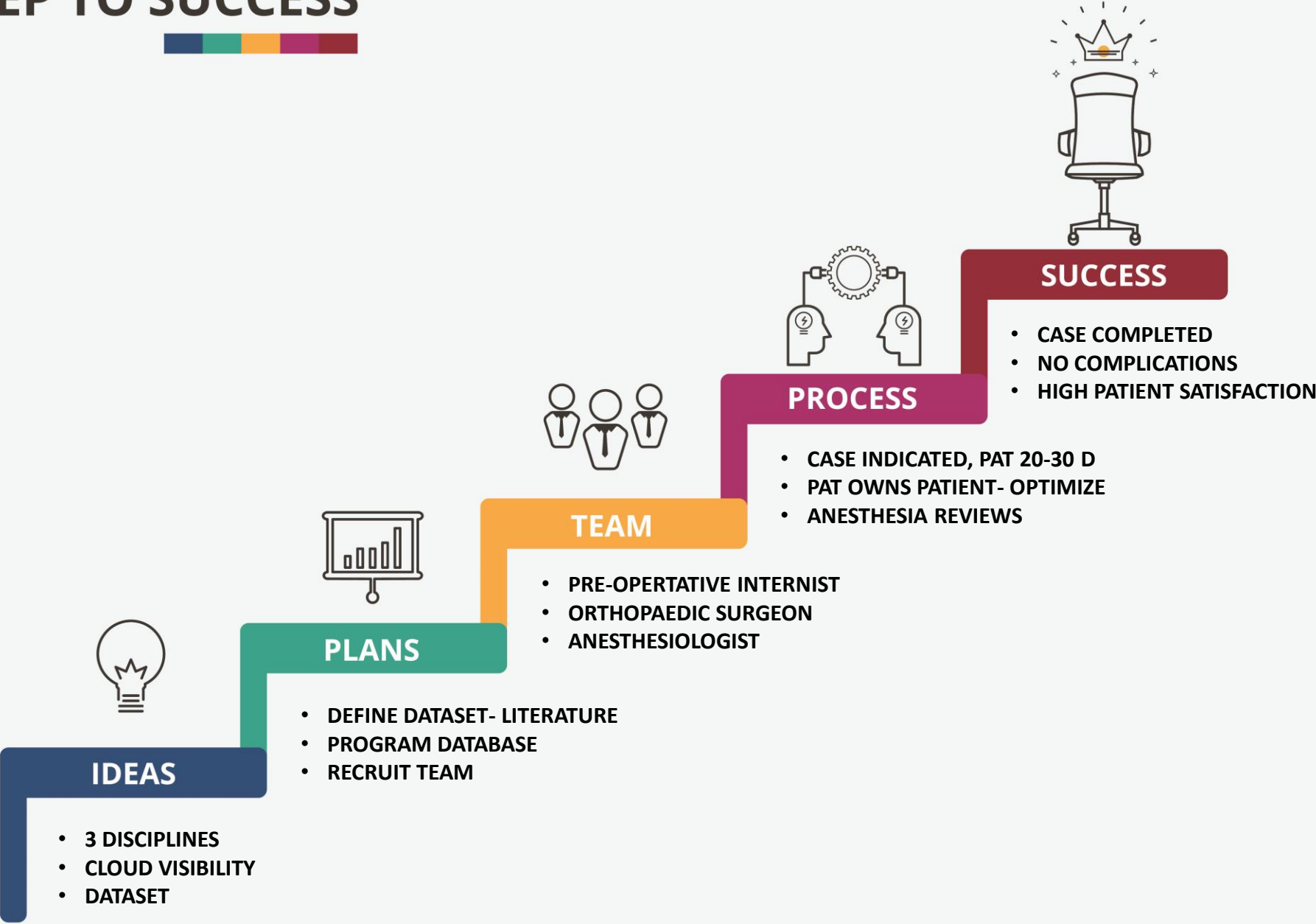
**VISIBILITY TO KEY  
INFORMATION FOR ALL  
PARTIES IS THE KEY!**







# STEP TO SUCCESS





**Add Fields**

Search for a field

ALL

TEXT FIELDS

- Single Line
- Paragraph

NUMERIC FIELDS

- Number
- Percentage
- Currency
- Auto Counter

CHOICE FIELDS

- Drop Down List
- Checkboxes

DATE FIELDS

- Date
- Date and Time

**Included Fields**

Search for a field

- Last Name  
Single Line
- First Name  
Single Line
- MR #  
Single Line
- Acct # on day of booking  
Single Line
- DOB  
Date
- Age**  
Triggered Number
- Gender  
Drop Down List
- Surgeon  
Drop Down List
- First Assistant  
Drop Down List
- Bill First Asst  
Checkboxes
- Referral Source  
Drop Down List

**Field Settings Age**

Field Name: Age

Formula: Select a function

Result Formula: `datedif(today(), {DOB}, "yyyy")` [Undo](#)

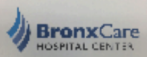
[Get help on formulas](#)

Field is indexed

Display Options: Sample: 1.234.567.89

POPULATE THE FIELDS BASED ON EVIDENCE DATASETS. PRODUCE MULTIPLE VIEWS. PRODUCE MULTIPLE FORMS. ALLOW FOR WEBMERGE OUTPUT. LAPTOP OR MOBILE.





BLHC Z-DAY ▾



Admin

Go to... ▾

IKIRSCH@BRONXLEB.ORG ▾

Dr. K

Dr. M

Dr. Au

Dr. S

Dr. Al

Dr. Ay

Dr. W

Dr. Le

Dr. SB

Dr. FF

Rounds Tracker

Pre-Op Optimization ▾

### All Procedures



Open Pre-Op Optimization Pending All



Open Pre-Op Optimization This Week



Open Pre-Op Optimization Next Week



Open Pre-op Optimization Next 30 Days

### Joint Service



Open Joint Service Check- This week RH



Open Joint Service Check- Next Week- RH



Open Joint Service Check- Next 30 days- RH



# Pre-op Optimization Next 30 Days ▾

Filter

Sort

ID	Surgery Date & ...	Referral Source	Surgery Status	Pre-op Diagnos...	Pre-op Diagnos...	Planned Proc 1 ...	Planned Proc 1 ...	Planned Proc 1 ...
	09/03/2019 11:00am		pending	Syndesmotic disruption of right ankle: Closed displaced trimalleolar fracture of right ankle:	ICD-10: S93.431A • ICD-10: S82.851A	Right	Open Reduction Internal Fixation Ankle:	27822 27829 29515
	09/12/2019 07:30am		pending	Carpal tunnel syndrome, bilateral upper limbs:	ICD-10: G56.03	Left	Carpal Tunnel Release:	64721
	09/17/2019 07:30am		pending	Injury of triangular fibrocartilage complex (TFCC) of right wrist, initial encounter:	ICD-10: S69.81XA	Right	Arthroscopy Wrist:	29846
	09/13/2019 07:30am		pending	Gout:	ICD-10: M10.9	Right	Excision Lesion Upper Extremity: Hand Third Digit	26113
	09/10/2019 07:30am		pending	Sciatica:	ICD-10: M54.30		Spine L3-5	63047
	09/12/2019 07:30am		pending	Cubital tunnel syndrome on right	ICD-10: 056.21	Right	Ulnar Nerve Transfer:	64718
	09/27/2019 07:30am		pending	Acquired trigger finger of left little finger: Acquired trigger finger of left index finger:	ICD-10: M65.352 ICD-10: M65.322	Left	Trigger Finger Release: Hand Second Digit, Hand Fifth Digit	26055
	09/27/2019 07:30am		pending	Glomus tumor:	ICD-10: 018.00	Left	Excision Lesion Upper Extremity: Hand Thumb	26116
	09/27/2019 07:30am		pending	Carpal tunnel	ICD-10: G56.00	Left	Carpal Tunnel Release:	64721

 Show per page  ▾

Total Records: 98

### DEMOGRAPHICS

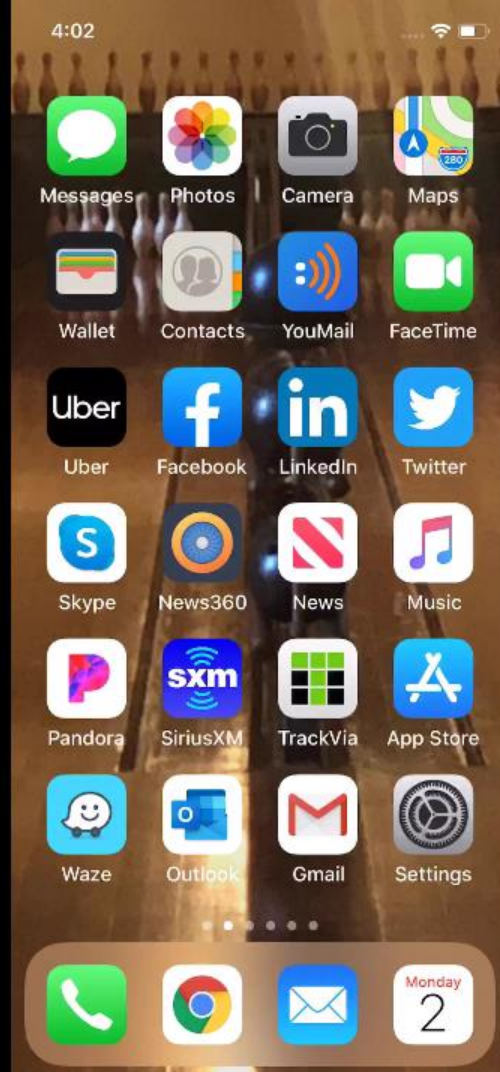
<b>Last Name</b> Sample		<b>First Name</b> Bob	
<b>Gender</b> Male	<b>DOB</b> 06/30/1967	<b>Age</b> 52	<b>MR #</b> 83283
<b>Surgeon</b> Kyan Chaney	<b>Surgery Status *</b> pending	<b>Surgery Date &amp; Time</b> 09/18/2019 07:30AM	<b>Surgery Location</b> Bronx-Lebanon
<b>Planned Proc 1 Description</b> Total hip replacement- 27130		<b>Planned Proc 1 Laterality</b> Right	
<b>Pre-Op Package</b> PRE-OP PACKET.pdf			

### REVIEW STATUS AND GENERAL

**Review Status**

Reviewed and Cleared  Reviewed with Issues





New Record

**DEMOGRAPHICS**

Last Name

Sample

First Name

Bob

Gender

Male

DOB

06/30/1967

Age

52

MR #

83283

Surgeon

Kyan Chaney

Surgery Status \*

pending

Surgery Date & Time

09/18/2019 07:30A

Surgery Location

Bronx-Lebanon

Planned Proc 1 Description

Total hip replacement- 27130

Planned Proc 1 Laterality

Right

Pre-Op Package





Key Barriers

- BMI
- A1C
- CD4
- Dental
- Utox
- Metal
- Steroids
- General health



Safety for the entire perioperative process

ICU Recs  
Cardiac Recs

Tasked with F/U and completion

Bringing it all home!



Safety for Anesthesia

ASA Level

Fluids perioperatively

Intraoperative safety



# Summary

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- **PATIENT- FOCUSED**
- **3-PRONG COLLABORATION**  
**INTERNIST (PCP PROXY)**  
**SURGEON**  
**ANESTHESIOLOGIST**
- **VISIBILITY**
- **CLOUD-BASED**  
**COMPUTER**  
**MOBILE**  
**PRINT**
- **EVIDENCE-BASED DATASET**
- **OPEN ACCESS, LOW CODE DATABASE**  
**TRACKVIA**  
**ALWAYS MODIFIABLE**  
**CONNECTIVITY**



← Uptown &  
The Bronx

4

5

6



*Thank you*

