



25 August, 2020

## Agenda

- Paul Pottinger: *Infection Prevention in the OR*
- Case Discussions
- Open Discussion



# UWWTASP

tele-antimicrobial stewardship program



- No financial conflicts of interest.
- Everything we discuss is QI, thus protected from legal discovery under WA State Code.

# IP in the OR: *Objectives*

- Challenges
- Opportunities
- Share your successes



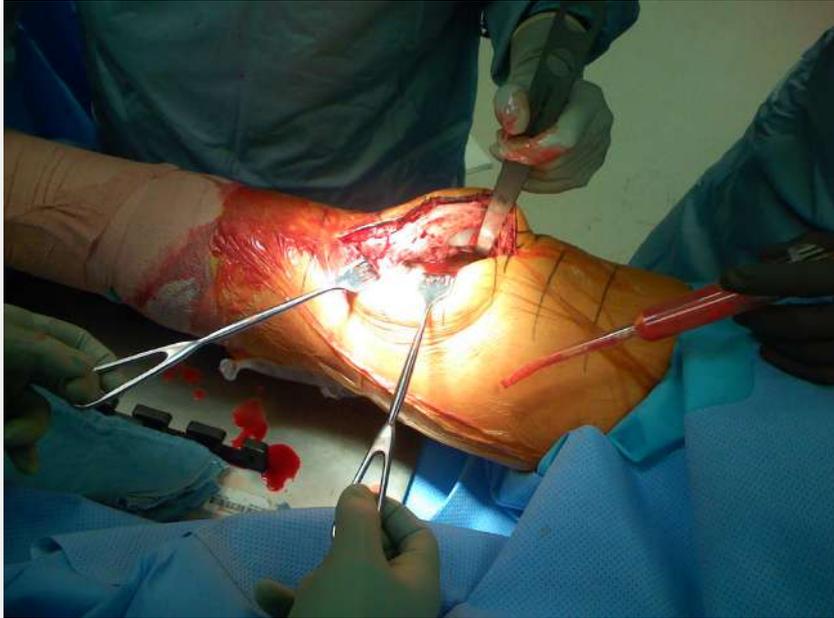
Paul Pottinger MD





Patch Dellinger, MD

# IP in the OR: *Terminology*



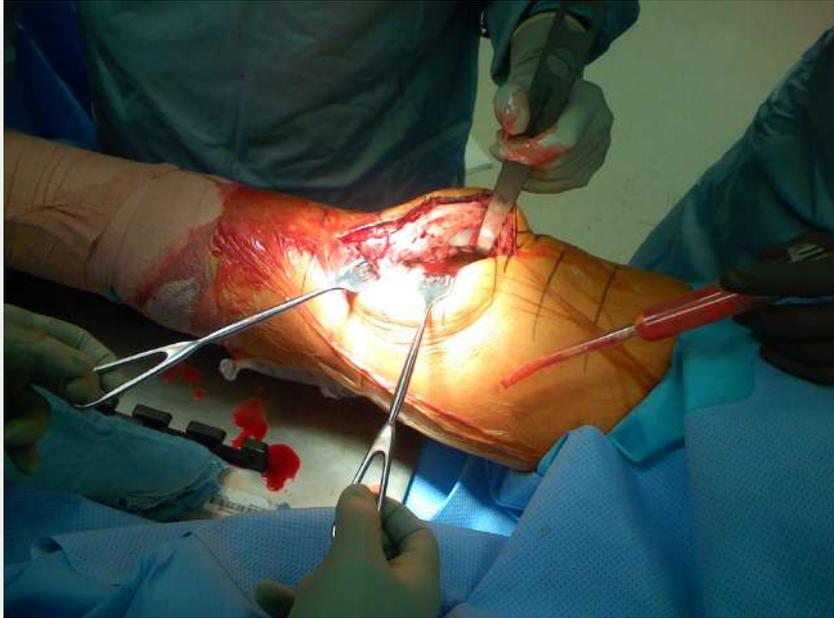
Protecting PATIENTS  
“Infection Control”



Protecting HCWs  
“Employee Health”



# IP in the OR: *Terminology*



Protecting PATIENTS  
from OTHERS

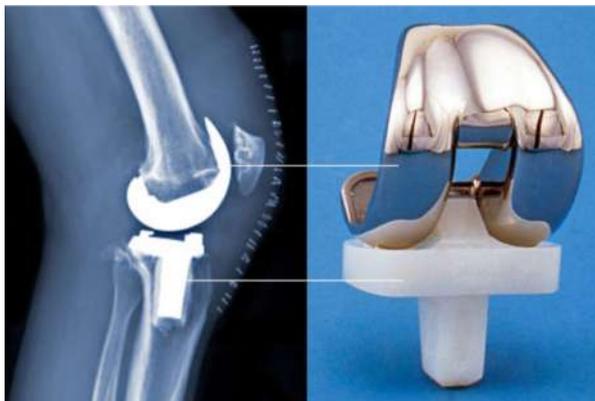
Protecting PATIENTS  
from THEMSELVES

Protecting PATIENTS  
“Infection Control”

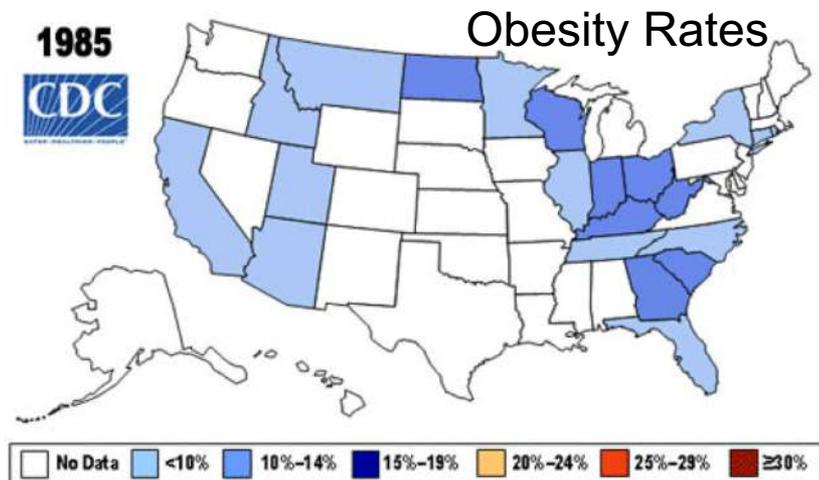


# Surgery in America: *The Numbers*

- ~100 million cases per year (equal split inpt & outpt)
- ✓ Hysterectomy: 498,000
- ✓ Cesarean section: 1.3 million
- ✓ Reduction of fracture: 671,000
- ✓ Coronary artery bypass graft: 395,000
- ✓ Total knee replacement: 719,000
- ✓ Total hip replacement: 332,000



CDC



# Surgery in America: *The Numbers*

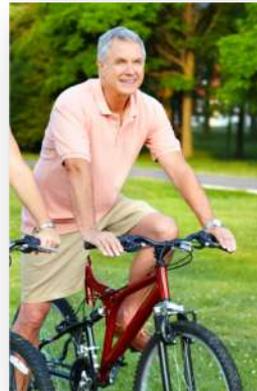
- ~100 million cases per year (equal split inpt & outpt)
- Peak age: 75 (16% / year)
- 9.2 procedures / lifetime
  - ✓ 3.4 inpatient operations
  - ✓ 2.6 outpatient operations
  - ✓ 3.2 non-OR invasive procedures

Leading Procedures	
Women	Men
✓ C-section	✓ Coronary (CABG, PCI)
✓ Cholecystectomy	✓ Wound debridement
✓ Cataracts	✓ Herniorraphy



# Surgical Site Infections (SSI): *Burden*

- SSI Rates: *Variable!*
  - ✓ Procedure?
  - ✓ Technical Complexity?
  - ✓ Medical Conditions / Comorbidities?
  - ✓ Emergent vs Elective?
  - ✓ Clean... Clean / Contaminated... Contaminated?
  - ✓ Superficial vs Deep?
  - ✓ Early vs Delayed?



# IP in the OR: *NHSN Surveillance*

## National Healthcare Safety Network

### ✓ Common Procedures Tracked & SSIs Reported

30-day Surveillance			
Category	Operative Procedure	Category	Operative Procedure
AAA	Abdominal aortic aneurysm repair	LAM	Laminectomy
AMP	Limb amputation	LTP	Liver transplant
APPY	Appendix surgery	NECK	Neck surgery
AVSD	Shunt for dialysis	NEPH	Kidney surgery
BILI	Bile duct, liver or pancreatic surgery	OVRY	Ovarian surgery
CEA	Carotid endarterectomy	PRST	Prostate surgery
CHOL	Gallbladder surgery	REC	Rectal surgery
COLO	Colon surgery	SB	Small bowel surgery
CSEC	Cesarean section	SPLE	Spleen surgery
GAST	Gastric surgery	THOR	Thoracic surgery
HTP	Heart transplant	THYR	Thyroid and/or parathyroid surgery
HYST	Abdominal hysterectomy	VHYS	Vaginal hysterectomy
KTP	Kidney transplant	XLAP	Exploratory laparotomy

# IP in the OR: *NHSN Surveillance*

## National Healthcare Safety Network

### ✓ Common Procedures Tracked & SSIs Reported

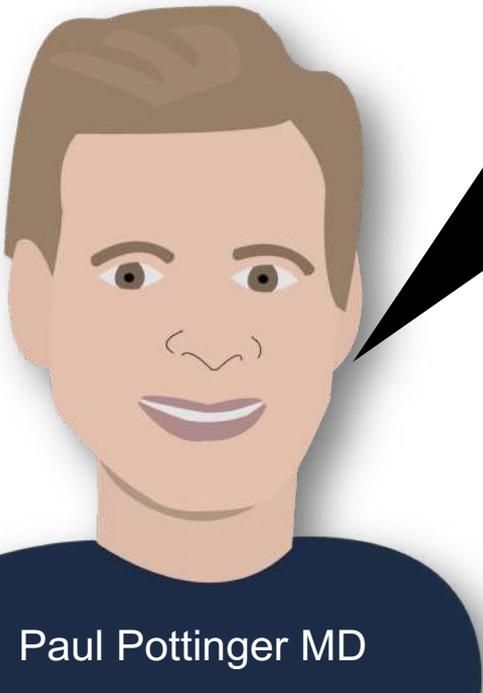
#### 90-day Surveillance

Category	Operative Procedure
BRST	Breast surgery
CARD	Cardiac surgery
CBGB	Coronary artery bypass graft with both chest and donor site incisions
CBGC	Coronary artery bypass graft with chest incision only
CRAN	Craniotomy
FUSN	Spinal fusion
FX	Open reduction of fracture
HER	Herniorrhaphy
HPRO	Hip prosthesis
KPRO	Knee prosthesis
PACE	Pacemaker surgery
PVBY	Peripheral vascular bypass surgery
VSHN	Ventricular shunt

# IP in the OR: *Question*

Do you know your hospital's current SSI rate?

- A. Yep
- B. Nope
- C. I'm not sure



Paul Pottinger MD

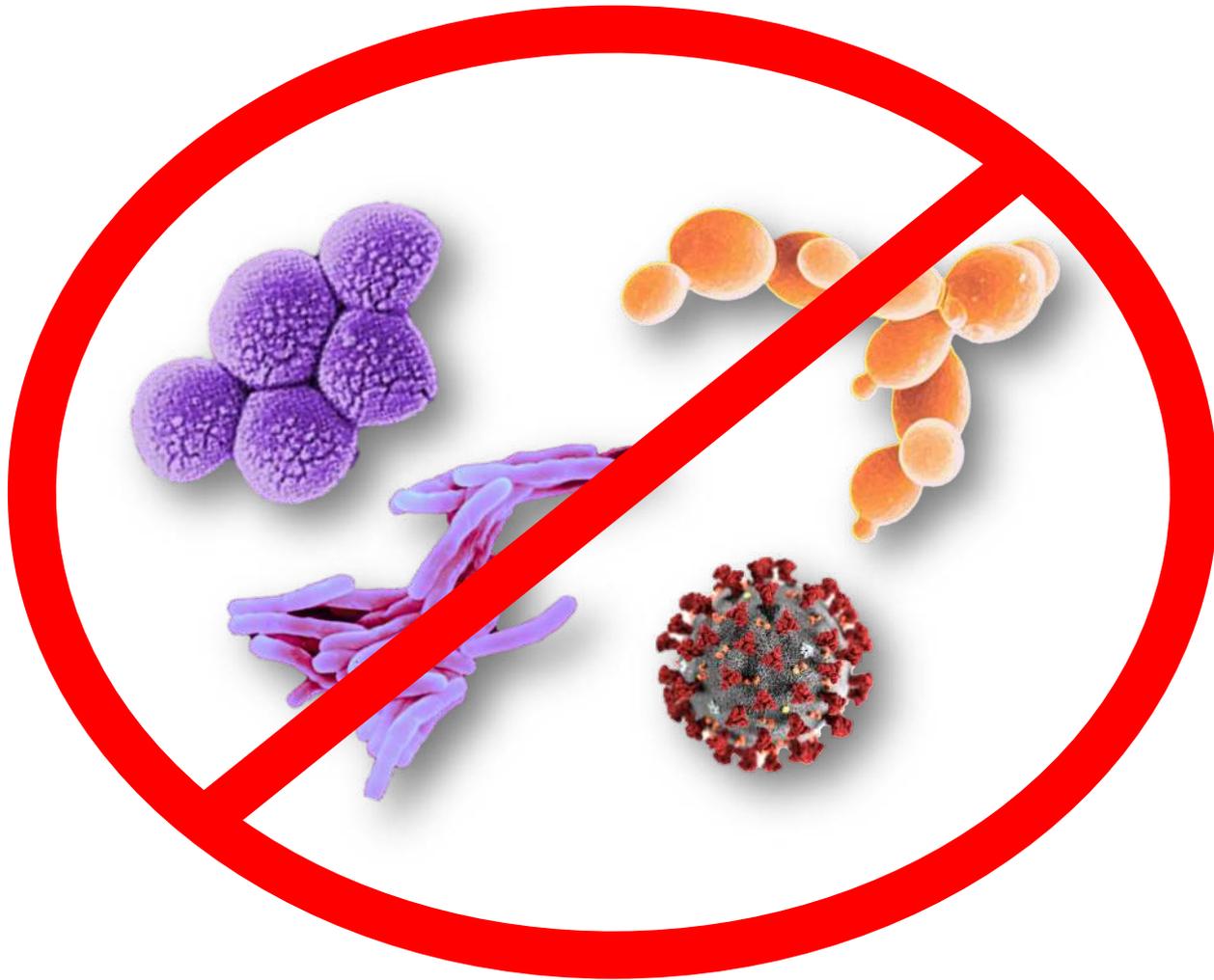


# Surgical Site Infections (SSI): *Stakes*

- ✓ CMS Participation
- ✓ Center Reputation
- ✓ Surgeon Reputation
- ✓ Medicolegal Risk
- ✓ Patient M&M



# IP in the OR: *Core Concept*

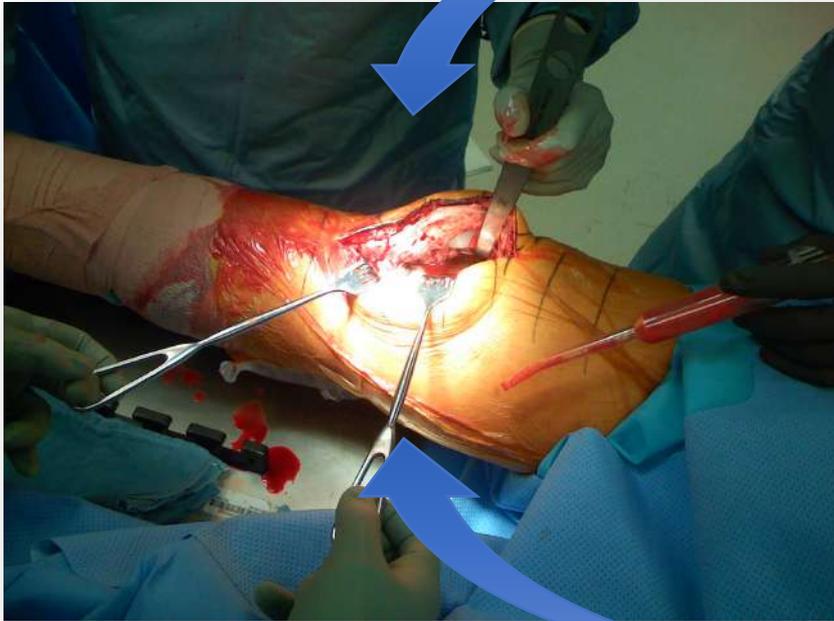


Keep Germs Where They Belong!



# IP in the OR: *Classic (Pre-COVID) Approaches*

## Environmental Threats



### Countermeasures

- ✓ Environmental Hygiene
- ✓ Strict device / medication certification
- ✓ Sterile trays, etc.



## HCW Threats

### Countermeasures

- ✓ Sterile technique / gloves / masks
- ✓ Diversion Prevention
- ✓ BBP Mitigation (Hep B)



# Peri-Op Abx: *Only One Factor*



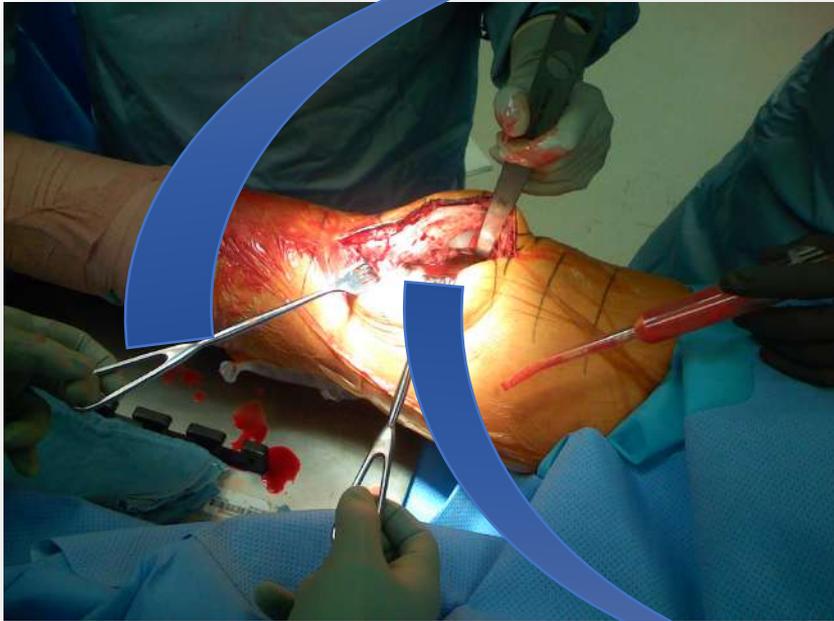
## “Many Opportunities”

- OR checklist preop?
- Normothermic?
- Euglycemic?
- Normoxic?
- Technical factors?
- Cardiopulmonary baseline?
- Duration of case?



# IP in the OR: *Classic (Pre-COVID) Approaches*

## Instrument / Waste Threats



### Countermeasures

- ✓ Strict instrument processing
- ✓ Careful waste handling



## Patient BBP Threats

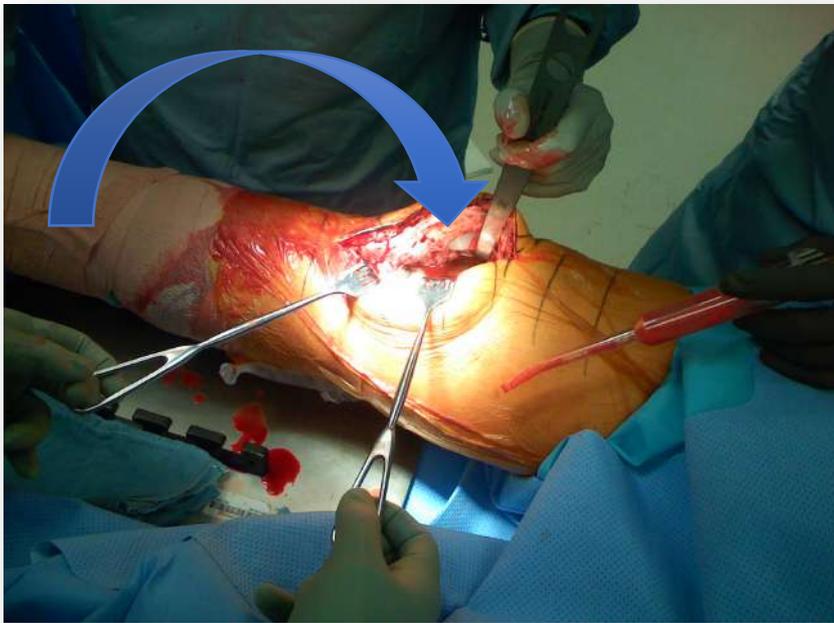
### Countermeasures

- ✓ Sterile technique / gloves / masks
- ✓ NSI / sharps training
- ✓ Hep B Immunization
- ✓ “Culture of Safety”



# IP in the OR: *Classic (Pre-COVID) Approaches*

## Pt-Pt Threats



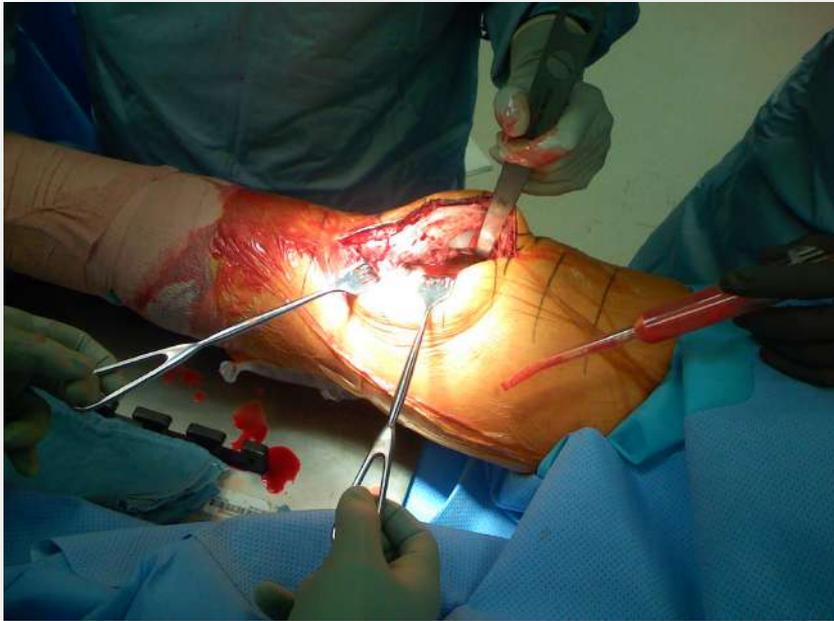
### Countermeasures

- ✓ Pre-Op Workup / Optimization
- ✓ Intraop Care (skin prep, abx, glycemic control, perfusion, virtuosity)
- ✓ Postop Care (caths out, wound care, mobilization)



# IP in the OR: *Classic (Pre-COVID) Approaches*

## HCW-HCW Threats

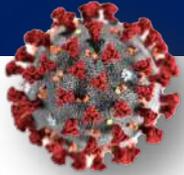


### Countermeasures

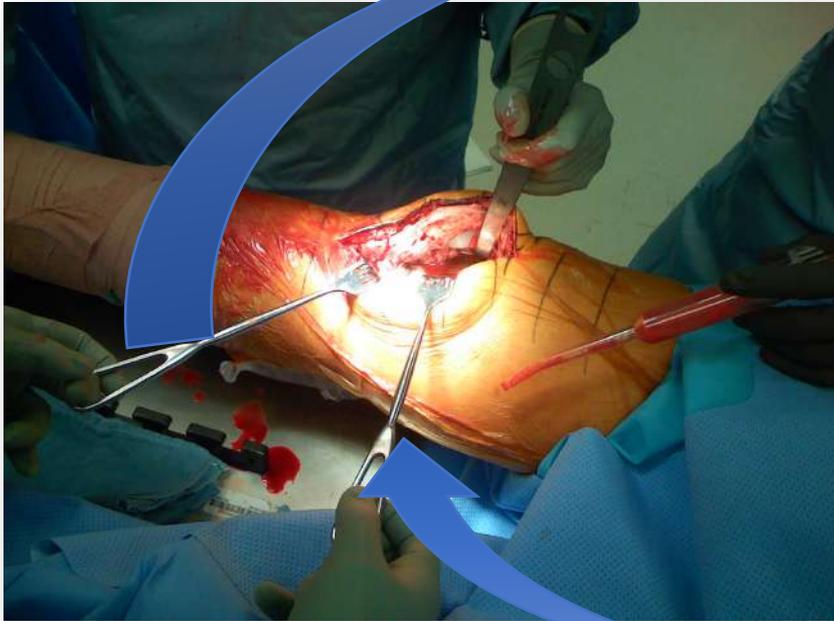
- ✓ NSI / Sharps Training
- ✓ No soiled scrubs outside the OR
- ✓ “Culture of Safety”



# IP in the OR: *Current (COVID) Approaches*



## Pt-HCW Threat



### Countermeasures

- ✓ Daily attestations
- ✓ “Culture of Safety” At work & Beyond



### Countermeasures

- ✓ Pre-Op Screen (symptoms, recent contacts)
- ✓ Pre-Op Testing (PCR)
- ✓ Enhanced PPE (if unknown status or + COVID)

## HCW-Pt Threat

## HCW-HCW Threat



# IP in the OR: *Airflow Issues with COVID*



Old-School:

Airflow should protect the pt from the room.

COVID-School:

Now, the patient is a “threat” to OR staff... is OR airflow safe for HCWs?

Answer:

YES! Fast turnover of clean OR air is good for pts and for HCWs. Laminar flow not necessary



# IP in the OR: *Airflow Issues with COVID*



**“LET IT FLOW!”**



# IP in the OR: *Pre-Op COVID Screening*

Are you currently screening patients for COVID-19 before surgery?



Paul Pottinger MD

- A. Yep
- B. Nope
- C. I'm not sure



# IP in the OR: *Discussion*

What issues are you facing with OR Infection Prevention? What challenges and successes can you share?



Paul Pottinger MD



# IP in the OR: *Resources*

CDC NHSN guidance on SSI surveillance and reporting:

<https://www.cdc.gov/nhsn/pdfs/pscManual/9pscSSICurrent.pdf>

WSHA Action Bundle for colorectal SSI prevention:

[http://www.wsha.org/wp-content/uploads/15\\_SAB\\_SSI\\_Colon-1.pdf](http://www.wsha.org/wp-content/uploads/15_SAB_SSI_Colon-1.pdf)

UW-TASP SSI Antibiotic Prophylaxis Lecture (attached below)



# IP in the OR: *Conclusions*

- OR environment a unique IP challenge... and opportunity
- COVID a (real) distraction
- Classical issues still rule!
- In a safe OR:
  - ✓ Checklists used
  - ✓ Team approach
  - ✓ Pre-op, intra-op, post-op care bundles of best practice
  - ✓ Patients and HCWs are safe



Paul Pottinger MD

