

Learning Objectives

- **What is SSI?**
- Types of SSI
- Why & How you get infection?
- How to Prevent SSI?
- How to look for SSI?
- How to treat SSI?

SSI: Definition

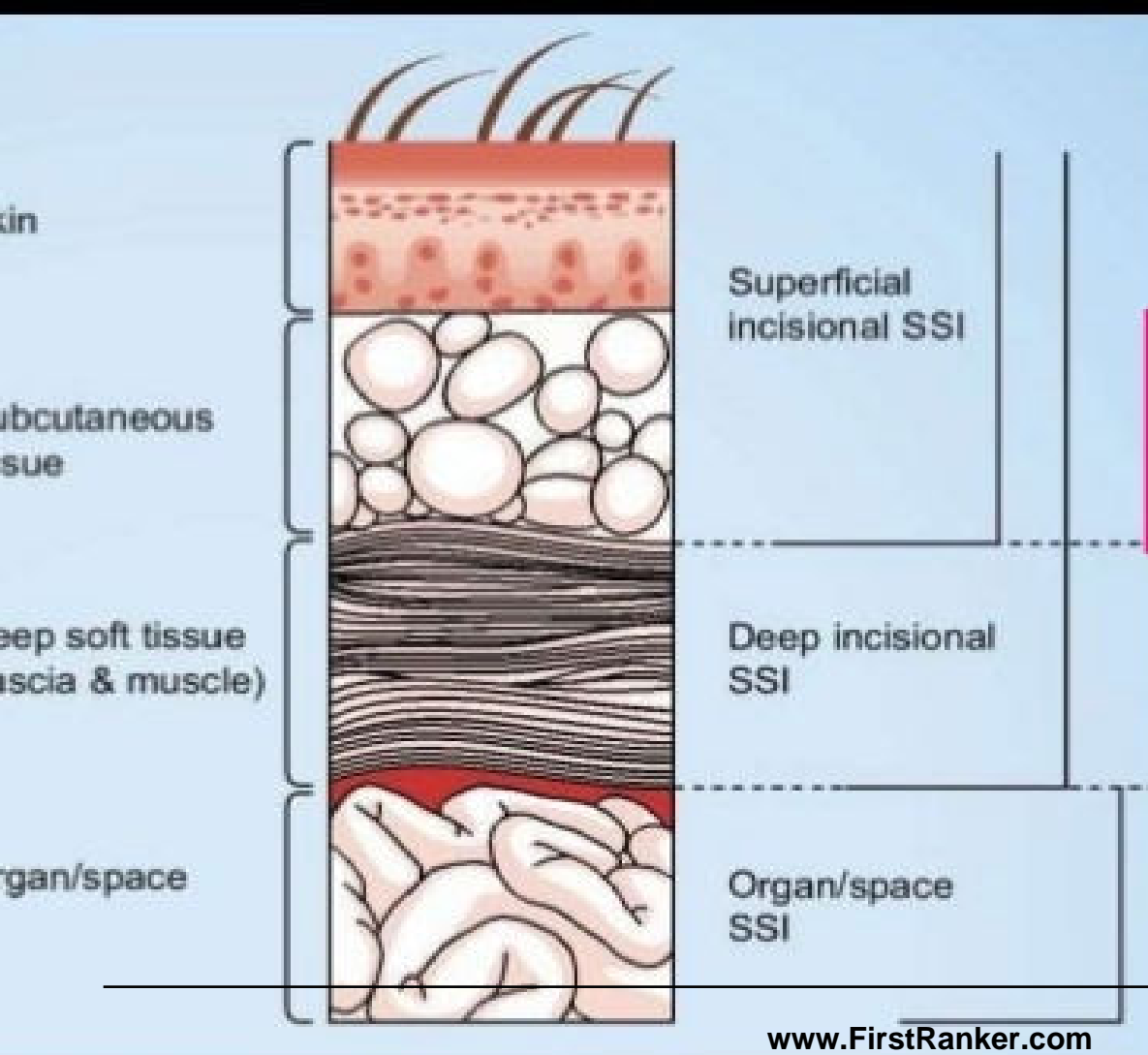
- **Infection of Surgical Incision**
- With in 30 days
- Within 1 year if FB is implanted e.g: TKR
 - Early infection: < 2 weeks
 - Delayed infection: 2-10 weeks
 - Late infection: > 10 week
- Commonest hospital acquired infection/ (Nosocomial infection)
- Cost of SSI
 - Prolonged stay/Readmission/ Expense



Joseph Lister: Father of Antiseptic surgery



Classification of SSI



1. Superficial Incisional
2. Deep Incisional
3. Organ/Space SSI

Learning Objectives

- What is SSI?
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- **Why & How you get infection?**
- How to Prevent SSI?
- How to look for SSI?
- How to treat SSI?
- Role of Our Lotus Staffs
 - OT/ICU/Ward staff
 - NS
 - Surgeons

Source of Microbes



Risk factors for SSI

Patient factors

- Age
- DM
- Obesity
- Smoking
- Malnutrition
- Immune compromised
- Prolonged Pre op stay
- Remote site infection

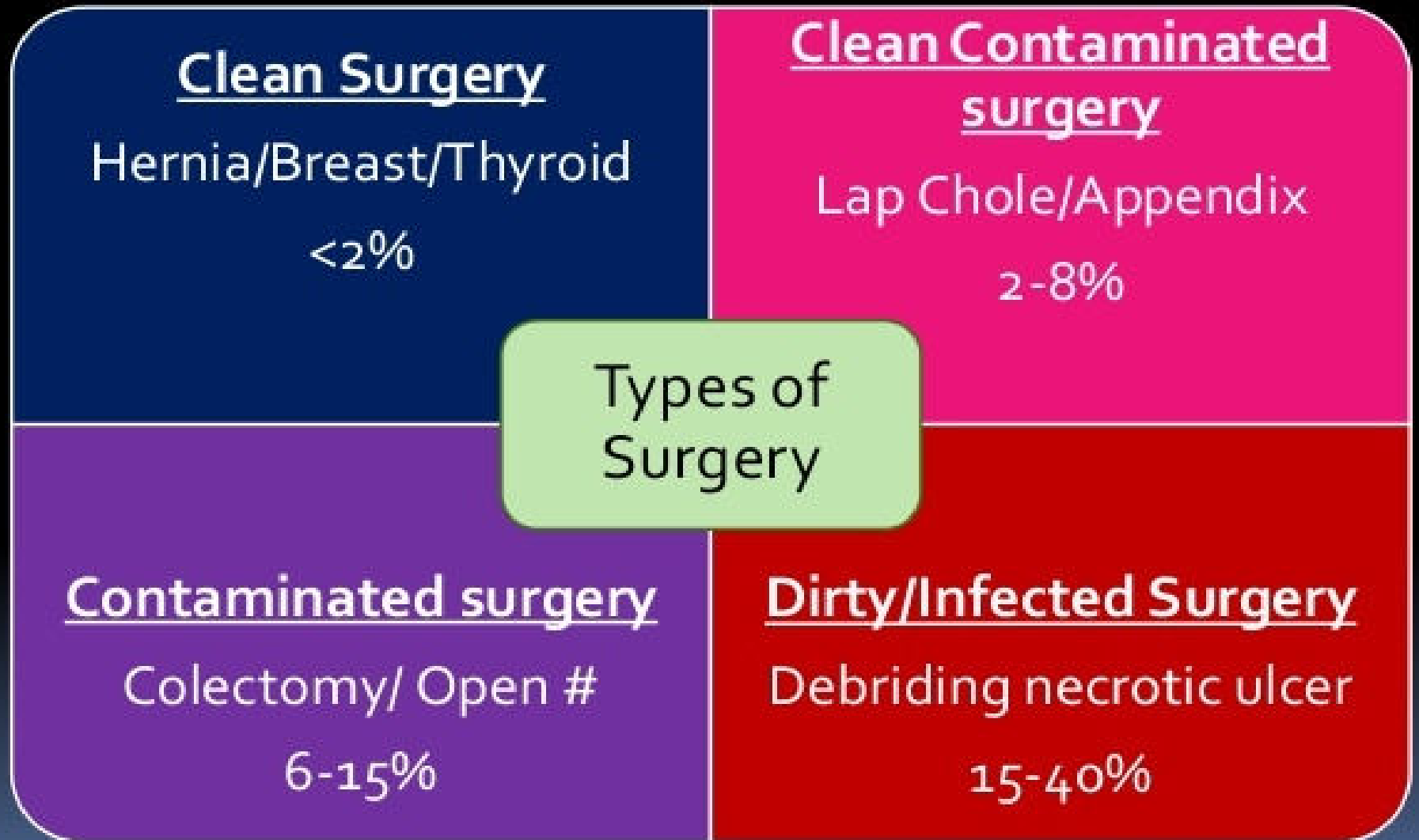


Risk factors for SSI

Procedure related

- Type of Operation
- Duration of operation
- Skin shaving
- Skin preparation
- Peri operative hypoxia
- Theatre discipline
- Antibiotic prophylaxis
- Surgical technique
- Drain
- Wound hematoma





Learning Objectives

- What is SSI?
- Types of SSI
- Why & How you get infection?
- **How to Prevent SSI?**
 - Pre operative phase
 - Intra operative phase
 - Post operative phase
- How to look for SSI?
- How to treat SSI?
- Role of Our Lotus Staffs
 - OT/ICU/Ward staff
 - NS
 - Surgeons

Pre operative Phase



- **Pre op Shower**
 - With soap or savlon
 - With in 8-12 hours
- Shaving
- Patient Dress
- Theatre staff Dress
- Hand washing
- Antibiotic prophylaxis

Pre operative Phase

- Shower
- **Shaving**
 - No need!
 - If needed:
 - Limited to the area of surgery
 - Day of surgery
 - Disposable razor Vs Clipping/Depilation cream
- Patient Dress
- Theatre staff Dress
- Hand washing
- Antibiotic prophylaxis



Problems of Shaving

- Pain
- Allergy
- Infection risk!



Pre operative Phase

- Shower
- Shaving
- Patient Dress
 - Don't interfere with operation site/Venflon
 - Comfortable
 - Maintain dignity
- Theatre staff Dress
- Hand washing
- Antibiotic prophylaxis

Pre operative Phase

- Shower
- Shaving
- Patient Dress
- **Theatre staff Dress**
 - Non sterile, clean
 - Cap & Mask
 - Shoes
 - Goggles
- Hand washing
- Antibiotic prophylaxis



Pre operative Phase

- Shower
- Shaving
- Patient Dress
- Theatre staff Dress
- **Hand washing**
 - Betadine/Chlorhexidine
 - No need for soap/brush
 - 5 minute ritual
 - 2 minute between cases/hand scrub
- Antibiotic prophylaxis



Hand Wash 5 min ritual



1. Rub palm to palm



2. Rub palm over back of hand, fingers interlaced



3. Palm to palm, fingers interlaced



4. Fingers interlocked into palms



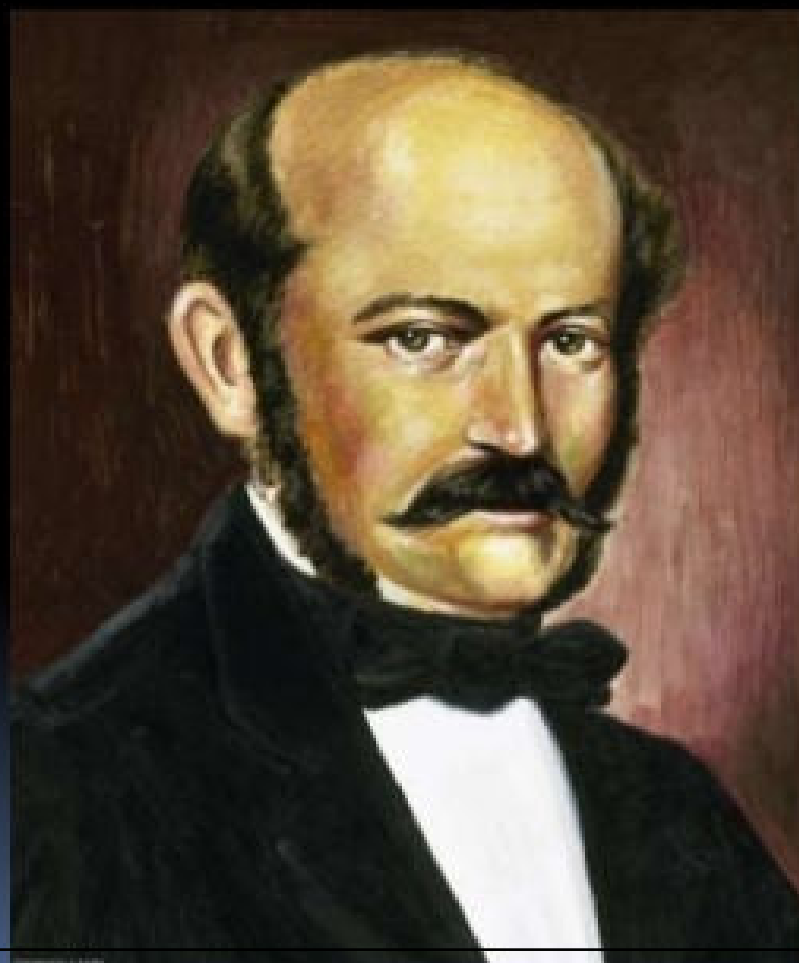
5. Rotational rubbing of thumb clasped into palm



6. Rotational rubbing of clasped fingers into palm

Semmelweis

Who taught us to wash hands!



Pre operative Phase

- Shower
- Shaving
- Patient Dress
- Theatre staff Dress
- Hand washing
- **Antibiotic prophylaxis**
 - 1 hour before incision
 - Before induction!
 - Before tourniquet application!
 - 1 dose vs. 3 dose
 - Additional dose:
 - if prolonged operation eg: Brain surgery
 - Excess blood loss: eg: Liver surgery
 - Drug: Bactericidal drug acc to type of surgery
 - GI surgery: Cefoperazone/Sulbactam or cefotaxime
 - Urinary surgery: Amicacin
 - Breast/Thyroid/ENT procedures: Co amoxiclav
 - Hernia: Cefoperazone/Sulbactam



Intra operative Phase

- **Patient skin Preparation**
 - Iodine/Chlorhexidine
 - Allow it to dry & avoid spillage to diathermy pad
- Incision drapes
- Sterile Gown & Gloves
- Patient Homeostasis
- Theatre discipline
- Wound dressing



Intra operative Phase

- Patient skin Preparation
- **Incision drapes**
 - No benefit
 - Use iodophor impregnated sticky drapes
- Sterile Gown & Gloves
- Patient Homeostasis
- Theatre discipline
- Wound dressing



Intra operative Phase

- Patient skin Preparation
- Incision drapes
- **Sterile Gown & Gloves**
 - Water resistant gowns
 - Double glove technique
- Patient Homeostasis
- Theatre discipline
- Wound dressing



Intra operative Phase

- Patient skin Preparation
- Incision drapes
- Sterile Gown & Gloves
- **Patient Homeostasis**
 - **Avoid Hypothermia**
 - Warm fluids for infusion and for lavage
 - Warm blankets
 - Warm mattress
 - Monitor temperature every 30 min during surgery and post op
 - **Avoid Hypoxia**
 - Post operative mask O₂ / monitor SpO₂
 - **Avoid hypotension**
 - Infuse adequate fluids
- Theatre discipline
- Wound dressing



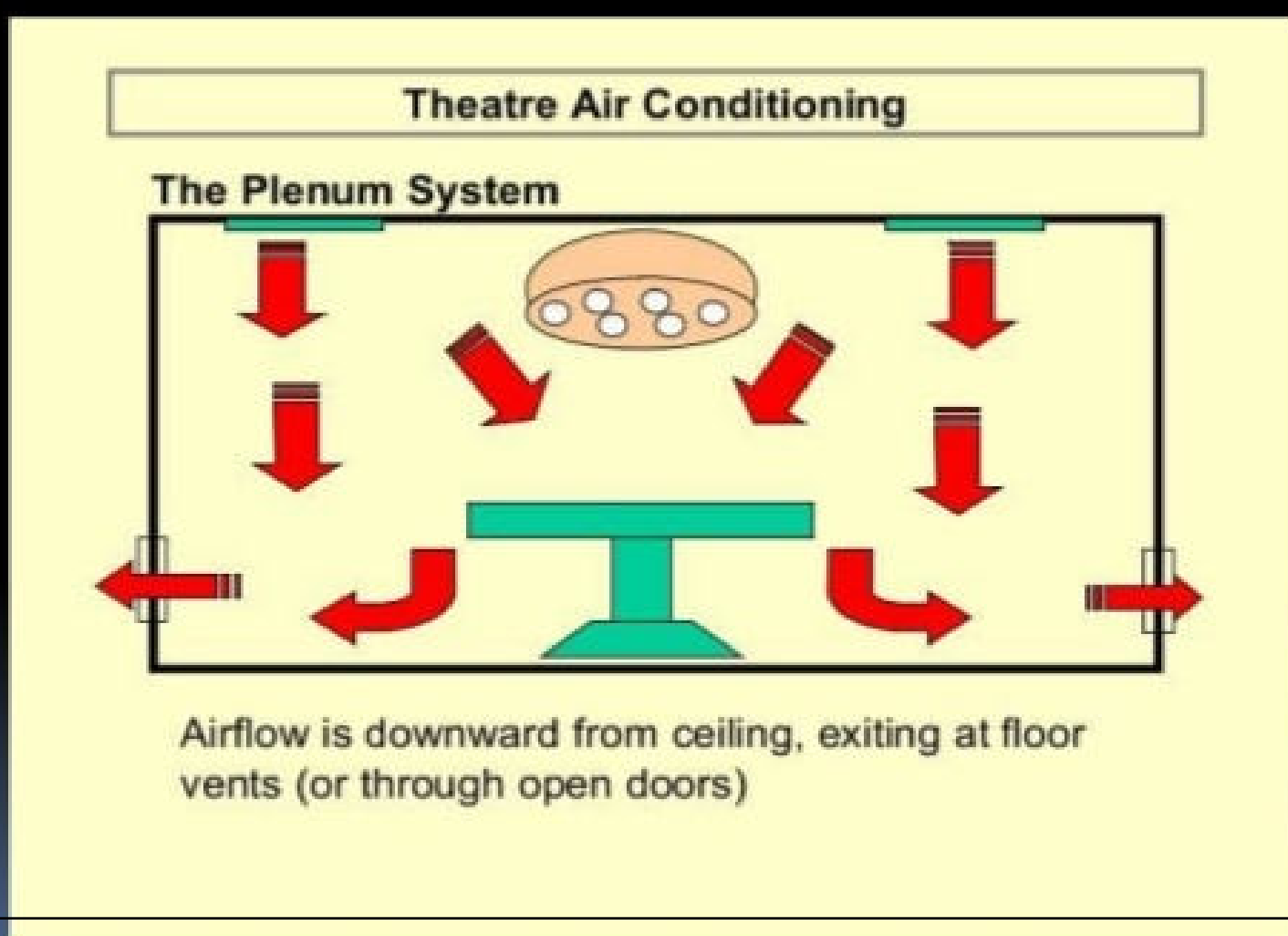
Intra operative Phase

- Patient skin Preparation
- Incision drapes
- Sterile Gown & Gloves
- Patient Homeostasis
- **Theatre discipline**
 - **Sterile & Quiet environment**
 - **Avoid to & fro movement**
 - **Ensure sterility of equipments & Theatre**
 - **Laminar airflow/Filters**
- Wound dressing



Sterile & Quiet environment
Avoid to & fro movement
Ensure sterility of equipments & Theatre
Laminar airflow/Filters

Laminar Air flow



Intra operative Phase

- Patient skin Preparation
- Incision drapes
- Sterile Gown & Gloves
- Patient Homeostasis
- Theatre discipline
- **Wound dressing**
 - Sutured Wound: e.g: laparotomy wound
 - Primapore/Tagaderm dressing with pad
 - Open wound: e.g: after debridement of necrotic ulcer
 - Sofratulle/pad/Crepe



Post operative Phase

- **Post operative wound dressing**
 - Laparoscopy wounds: Remove after 24 hours
 - Laparotomy wounds: Remove 2-4 days
 - Open wound dressing
 - Warm saline
 - Non adherent dressing to maintain moist environment
- **Visit by Wound care nurse**
 - Look for any wound infection and document

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Superficial Incisional



Redness
Pain
Swelling
Heat
Discharging pus

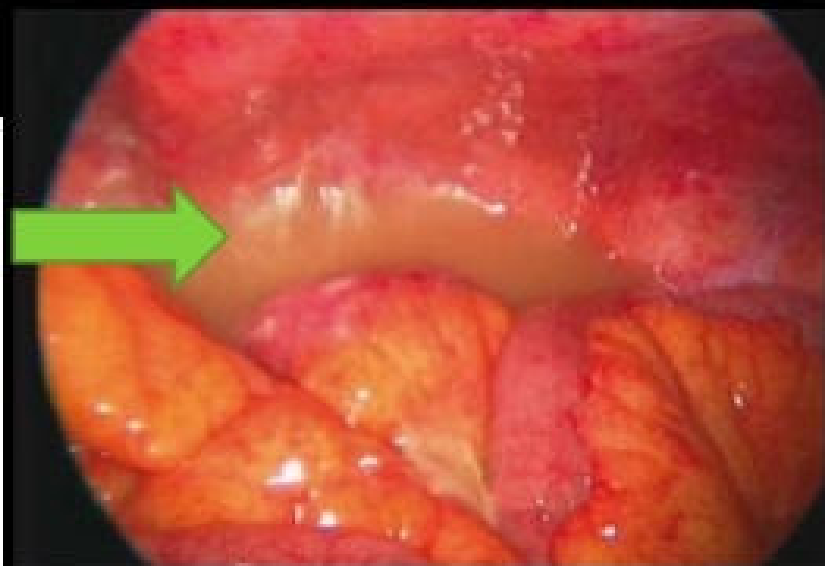
Deep Incisional



Wound Gapping
Fever
Pain
Discharge



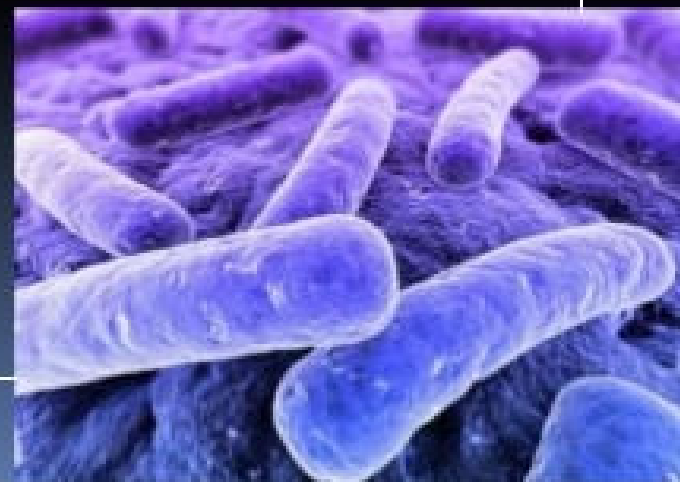
Organ/Space SSI



Fever
Pain
Anorexia
Discharge through drain
Imaging study

Treatment of SSI

- Surveillance
- Drainage of pus
 - Culture and sensitivity
 - MRSA
 - VRE
 - ESBL strains
- Debridement
- Antibiotics
- Removal of Implant



Summary...

- SSI is common cause of HAI
- Follow the recommended guidelines during all phases of surgery to prevent SSI
- SSI is a preventable offence
- Wound Care registry is the need of the hour

