

Sepsis Management



Dr Arati Kulwal
MD (OBGY), DNB, PGDHM
Med Suptdt, DWH Akola

Sepsis...major health concern

- **Contributes for 7-10% maternal mortality**
- **3rd most common cause**
- **Preventable cause for morbidity, mortality**
- **Long term disabilities**.. Chronic pelvic pain, tube blockage, sec infertility,
- **Cause intrauterine infection...**
preterm births, cerebral white matter damage, palsy, neurodevelopmental delay, stillbirth, Early/ late onset sepsis, perinatal death
(1 million deaths/yr)
- **Each hour delay in initiation of antibiotic ...causes 7.6% increase in mortality**

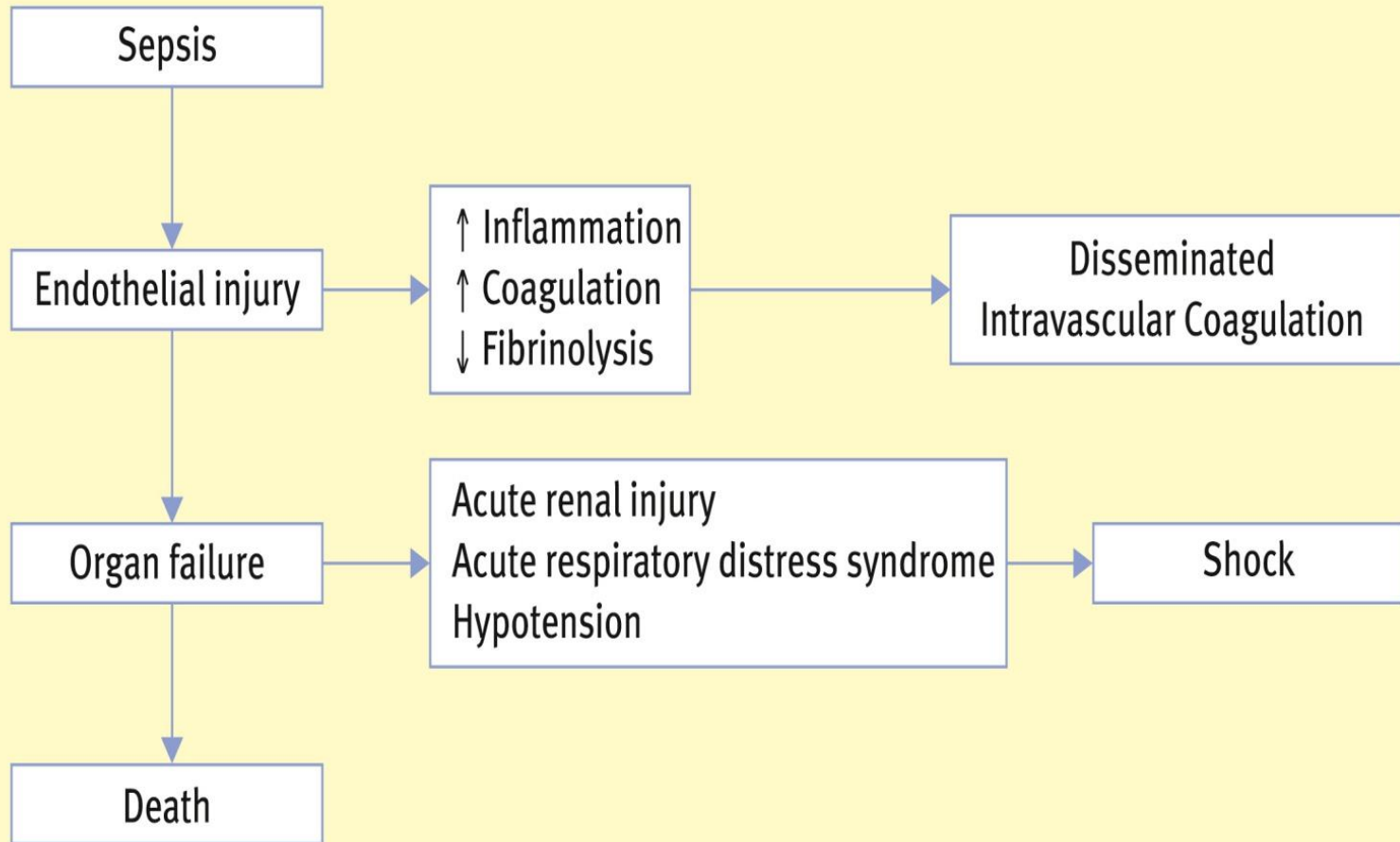
What is Sepsis?

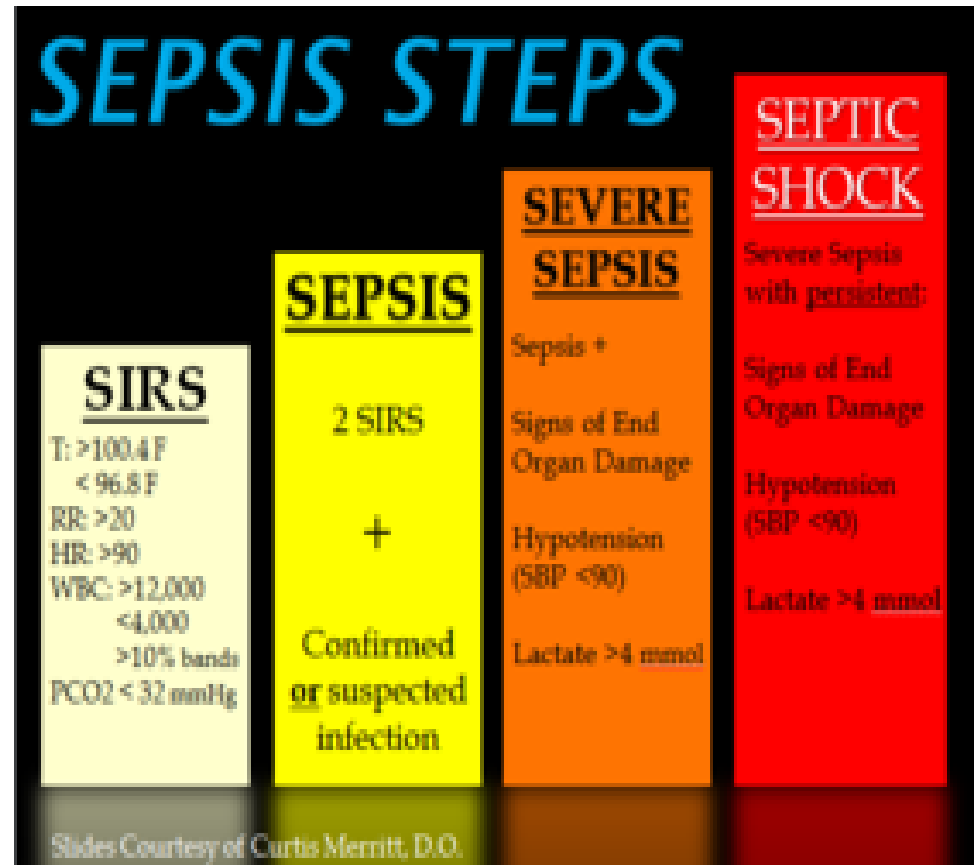
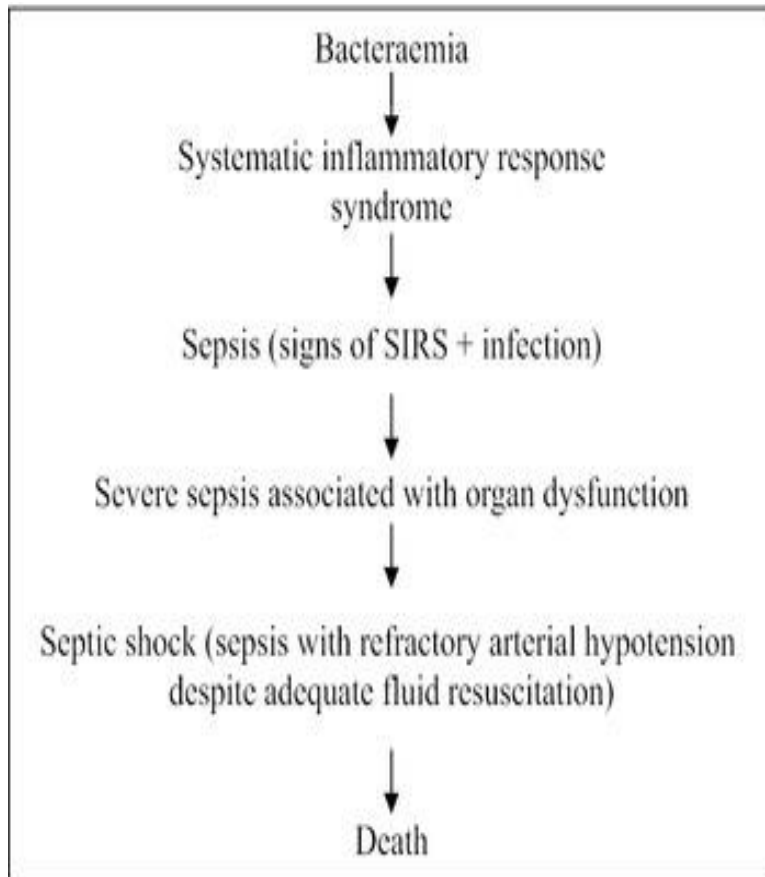


S E P S I S

Sepsis is the body's overwhelming immune response to severe infection and can result in damaging its own tissues, cause multi-organ failure and death.

Pathophysiology of sepsis





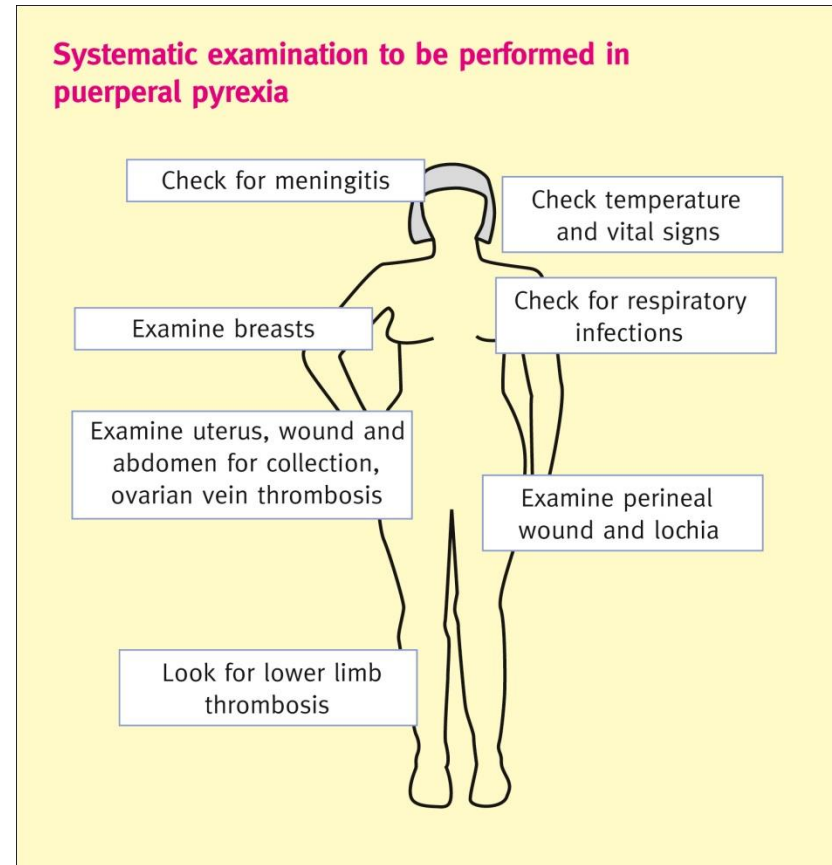
Sepsis score

SIRS criteria (two or more)	qSOFA criteria (two or more)
36 > Temperature > 38	Systolic blood pressure < 100 mmHg
Respiratory rate > 22/min	Respiratory rate > 20/min
Heart rate > 90 bpm	Glasgow Coma Scale ≤ 14
4000 > White cell count > 12,000	

SIRS: Systemic Inflammatory Response Score; qSOFA: quick Sequential Organ Failure Assessment.

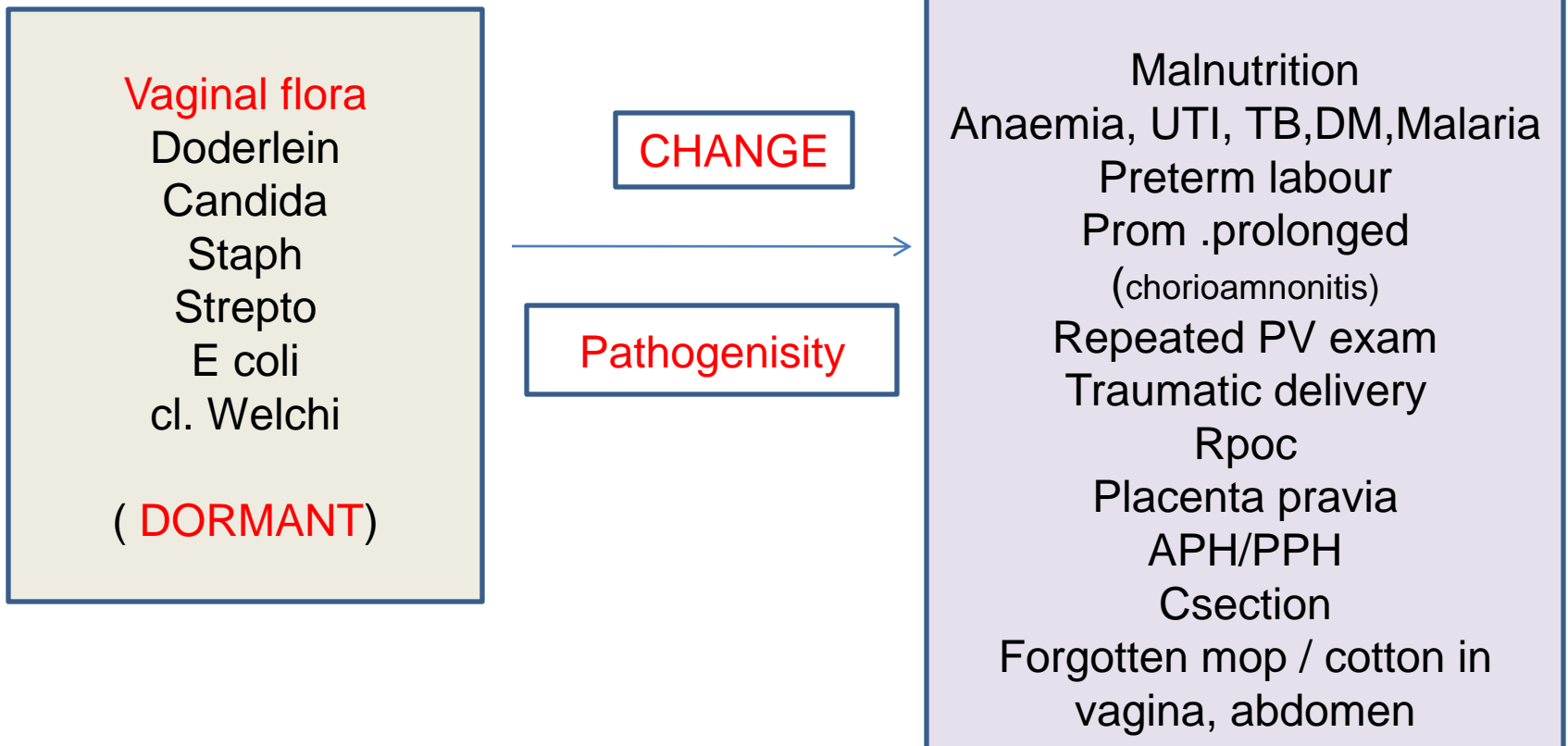
Puerperal pyrexia

- Rise of Temp reaching 100.4F / 38C or more
- Measured orally
- 2 separate occasions
- 24 hrs apart
- 24 hrs – 10 days postpartum



Maternal sepsis

- Life threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, postabortion, or postpartum



Responsible organisms & mode of infection

- **Sites of infection ...sepsis is usually a WOUND INFECTION**

perineum

vagina

cervix

uterus

Placental site

- **Organism**

- **Aerobic...**

1. GAS...(Toxic shock syndrome, necrotising fasciitis in Epi wounds, C section wound)

2 .GBS....(Neonatal deaths ...septicemia, RD, Meningitis)

3 others ...S aureus, E coli, klebsella. pseudomonas

- **Anaerobic**

Strepto, Bacteroids, clostridia

Mode of infection

- **Endogenous..**

- (genital tract organism)

- **Autogenous..**

- (other sites org..throat, skin)

- **Exogenous...**

- (HAI,)

Complications

- **Local infection**
- **Uterine infection**
- **Spreading infection**
 - pelvic peritonitis, general peritonitis**
 - parametritis**
 - pelvic abscess**
 - thrombophlebitis**
 - septicemia**
 - endotoxic/ septic shock**
 - ARDS, MODS**

C/F....

Fever
Offensive discharge
Subinvolted, tender
uterus
Abdo pain, tender
Pelvic pain
Fornix tenderness
Mass palpable
Diarrhoea

Signs and symptoms are nothing but the Cry of suffering organ

Investigation Principles

- **Locate site of infection**
- **Identify organism**
- **Assess severity of infection**

History...

(Antenatal, intranatal, postnatal high risk factor)

Clinical exam...

(TPR, neck stiffness, throat, breasts, dvt signs)

Systemic exam.. RS, CVS, organomegaly

Abdomen...s/o peritonitis, involution of uterus, tender uterus

Internal exam... lochia, wound condition, pelvic abscess

Investigations

- High vaginal, endocervical swab....culture, sensitivity
(aerobic & anaerobic media)
- Clean catch mid stream urine...culture, sensitivity
- CBC, Blood gp
- Blood culture
- Electrolytes, BSL, PS, KFT, LFT, coagulation profile
- Pelvic USG
- Colour doppler (DVT)
- X Ray chest(TB, lung abcess, atelectasis)
- CT/MRI (selected cases, pelvic vein thrombosis, foreign body)

Prophylaxis

1) Antenatal

improving nutritional status, Hb, treating infective foci

2) Intranatal

Full surgical asepsis, hand hygiene

PV exam 4 hrly in first stage of labour in low risk cases

Prophylactic dose of inj antibiotic (1gm cephalosporine) 1hr prior skin incision of c section

Vaginal cleansing with povidone iodine immediately before c section

3) Postpartum

sterile vaginal pads ,

WHO RECOMMENDATIONS for prevention of maternal sepsis

NOT recommended

- Routine perineal shaving/
enema
- Routine vaginal cleansing
- Routine antibiotic prophylaxis for preterm LP with intact membrane,
 - prom at term,
 - with meconium stained liquor,
 - instrumental delivery,
 - with episiotomy

Recommended

- Vaginal cleaning with povidone iodine before c section
- **Antibiotic prophylaxis** ..
Inj cephalosporine 1 hr before skin incision c section,
 - PPROM,
 - MRP,
 - 3rd 4th degree tear
- mother with GBS colonisation

Treatment

- **Adequate fluid and calorie intake**
- **Correction of anaemia**
- **Pain relief, care of wound**
- **Indwelling catheter ..if required**
- **Vital monitoring**
- **Antibiotics**
- **Surgical treatment**

Antibiotics

- **Puerperal pyrexia..**

inj Genta 2mg/kg IV loading dose
Then.. 1.5 mg/kg IV 8 hrly
+ inj Clindamycin 900 mg IV 8 hrly
+ Inj ampicillin
FOR 7-10 Days

OR

ampi + genta +
metro

OR

cephalosporins

- **Puerperal sepsis...**

inj Piperacillin-Tazobactam OR
inj Carbapenem + clindamycin
MRSA infection vancomycin

Surgical treatment

Bad perineal wound...

Removal of stitch
Drainage of pus
Hot compress
Antiseptic solution
Sitz bath
Antibiotics
Sec resuturing

RPOC

Antibiotics
for 24 hrs
Evacuation

Perineal Abscess.... I & D

Pelvic abscess...
colpotomy

Laparotomy

...limited role
Useful in
unresponsive
peritonitis
Drainage of pus
Tubo ovarian
abscess

Wound dehiscence..

Epi / c section wound...
Scrubbing twice daily
Debridement of necrotic tissue
, antibiotics
Sec suture/ healing by sec
intention

Hysterectomy...

Rupture uterus
Perforation
Multiple abscesses,
gangrenous uterus

Other conditions

- **Mastitis**
breast support, plenty of oral fluids, infected side expressed manually, analgesics,
Antibiotics..flucloxacillin, erythromycin for 7 days
- **Breast abscess**...Drainage under GA, antibiotics,
Expression of milk with breast pump
- **UTI**.... Urinary antiseptics for 5 – 7 days
- **Pelvic thrombophlebitis**....should be suspected when
pyrexia continues for > 1 week inspite of antibiotics
- **DVT** ... anticoagulants

Septic shock

Endotoxemic shock...

- Haemodynamic resuscitation
to maintain... MAP > 70 , CVP 10-12 cm, UOP 0.5 ml/kg/hr
- Antibiotics
ampi + genta + metro (or clindamycin)
or meropenem
- IV Fluids and Electrolytes
- Correction of acidosis
- Inotrops
- Corticosteroids
- Anticoagulants
- Elimination infective source
- Insulin therapy
- H2 blockers
- Nutritional support

Hour 1
bundle

Release of endotoxin



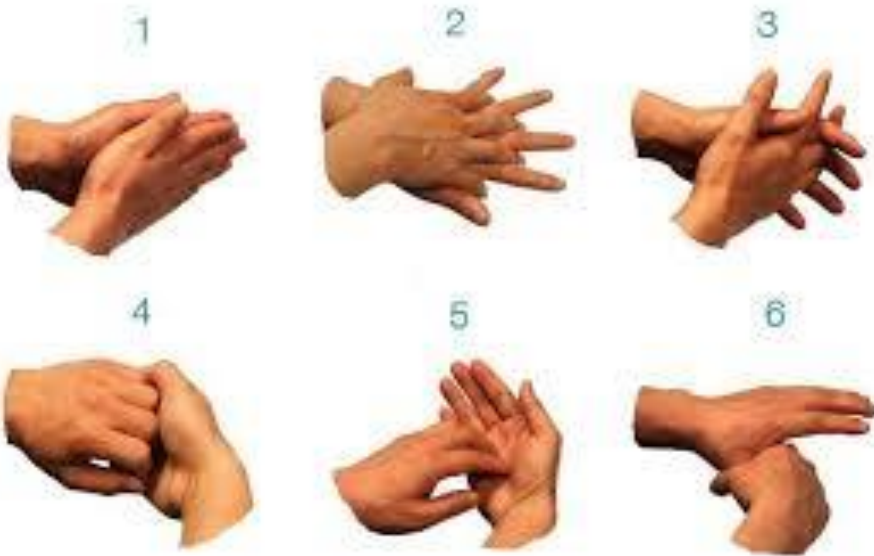
Circulatory
inadequacy

Tissue hypoperfusion

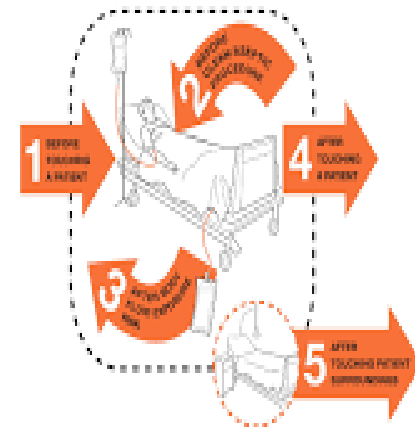
(hypotension,
oliguria, RDS)

Small steps.....change the outcome

6 steps of Hand Wash



Your 5 Moments for Hand Hygiene



Soap and Water And Common sense are
the Best disinfectants
....William Osler

Can make the difference....

- No PV exam without hand hygiene
- Use of sterile gloves for internal exam
- Catheterization by NO TOUCH method
- Allowing spontaneous delivery of placenta...NO routine MRP in c section
- NO mopping of uterine cavity in c section
- Tissue respect while suturing ... NO strangulation
- Rule out RTI/STI before IUCD insertion
- NO TOUCH TECHNIQUE for IUCD insertion
- Evacuation procedure by MVA only
- Checking IV site daily.