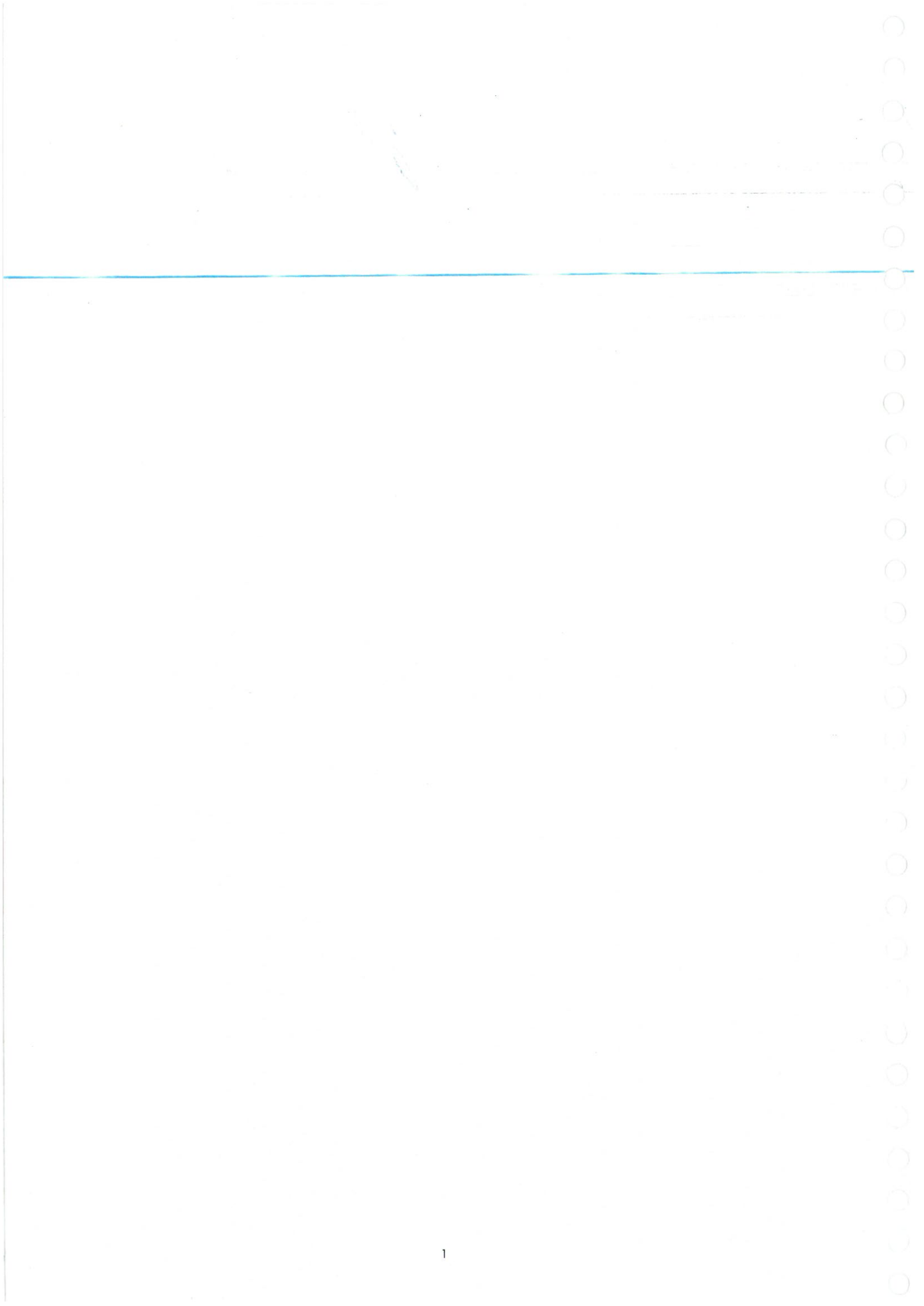


NEET SS
GENERAL
SURGERY-1



PATIENT SAFETY, OT ZONES AND SURGICAL POSITIONS

1

Events in patient safety

00:01:35

There are three events recorded for patient safety :

1. Adverse event :

Unwanted event, results in harm to the patient.

2. Near miss event :

The harm is prevented due to timely intervention.

3. No harm events :

An unwanted act occurs, however no harm to the patient.

The near-miss event data is the most reliable data regarding patient safety mechanisms.

Consent

00:06:34

Due to the use of checklists, the mortality rate decreased from 1.9% to 0.2%.

Consent : The consent should be in a written format.

The consent must include :

- Identification : Name, age, MRD no
- Diagnosis
- Procedure planned
- Surgeon
- Description
- Patient-specific complications
- Procedure specific complications [any complication with incidence >1%]
- Benefits
- Alternate procedures
- Sign of the patient, surgeon, witness.

If the patient is a minor : Consent should be obtained from a substitute decision-maker.

If the patient is a foreigner : Interpreter consent should be obtained.

Active space

Intravenous [IV] lines

00:13:38

2

Colour codes :

- Orange : 14 G - widest bore with fastest flow rate
- Grey : 16 G
- Green : 18 G
- Pink : 20 G
- Blue : 22 G
- Yellow : 24 G - narrowest bore with least flow rate

The MC complication : Superficial thrombophlebitis.

Treatment : Change of cannula.

With sugar-rich solutions [TPN] : Increased chances of thrombophlebitis.

TPN : Total parenteral nutrition.

In trauma patients : minimum two 18 G [green] IV lines should be used. [A wider bore cannula can be used if available].



Superficial thrombophlebitis

Surgical safety checklists

00:20:03

It has three components.

1. Sign in : From ward to the OT complex

- Confirm identity
- Written consent
- Site marking : Preferably by surgeon
- Allergies
- Prophylactic antibiotics.

2. Timeout : It is done by the circulatory nurse.

Before induction/skin incision :

- Introduction
- Surgeon : Name of surgery proposed
Approximate time of the procedure
Anticipated blood loss.
- Anaesthetist : Any specific concerns

Active space

Prophylactic antibiotics.

- Scrub nurse : Sterility maintenance.
- 3. Sign out : Before skin closure
 - Surgeon : Name of the actual surgery performed
Any concerns regarding patient
Any equipment issues.
 - Nurse : Gauze count and equipment count
Specimen labelling [if any].
 - Anaesthetist : Any concerns regarding patient
Actual blood loss.

Each phase of the checklist is signed by : Nurse, Anaesthetist, Surgeon.

Blood loss during surgery

00:32:45

- Soaked mops and gauze pieces count.
A completely soaked big mop : 100 cc.
- Blood in the suction drain.
- Irrigation fluid used -
- A fist full of clots : 500 cc of blood.

Actual blood loss = [mops soaked + blood in the suction] -

irrigation fluid

The mops/gauzes are lined : The lines are radiopaque.

Advantage : To locate the missing mop/gauze using C arm.

Soaked mop :



OT zoning

00:37:40

Protective zone	Clean zone [connects protective zone to aseptic zone]	Aseptic zone	Disposal zone
<ul style="list-style-type: none"> • Changing rooms • Transfer bay • Pre and post-op rooms • ICU/PACU 	<ul style="list-style-type: none"> • Equipment storeroom • maintenance workshop 	OT	All wastes are disposed of.

Active space

OT positions

00:40:04

Supine :

MC position used for abdominal, breast surgeries.

Neutral :

The head end and foot end of the table are at the same level.

Trendelenburg position :

The foot end of the table is raised.

It is used in pelvic surgeries.

Reverse Trendelenburg position :

The head end is raised and the foot end is lowered.

It is used in laparoscopic cholecystectomy, sleeve gastrectomy.

Prone position :

It is used for spinal surgeries, pilonidal sinus surgeries.

Lithotomy position :

It is used for obstetric, gynaecological, perineal, urological procedures.

Improper padding of the stirrups or over abduction : Leads to common peroneal nerve injury.

Lateral/kidney position :

It is used for thoracotomy, pyelothotomy, nephrolithotomy and nephrectomy.

Over abduction : Leads to a brachial plexus injury.

Sitting/ Fowler's position :

It is used for cranial surgeries [posterior cranial fossa], breast reconstruction surgeries.

Advantages : Relatively bloodless field. Better exposure.

Disadvantage : Increased risk of air embolism.

Prevention : Ligating the veins before cutting.

Continuous irrigation with water.

Rose position :

It is used in thyroid surgeries.

A towel roll is placed below the shoulder blades [neck extension].

30° head elevation.

Increased risk of air embolism.

- Air embolism :
minimum 20 cc of air is required to cause an air embolism.
If air embolism occurs, the patient is put into Durant's /
recovery position.
It is the left lateral decubitus position [right side and foot
end are up]. The air can be aspirated through a central
line or direct aspiration through the heart.

Laparoscopic cholecystectomy :

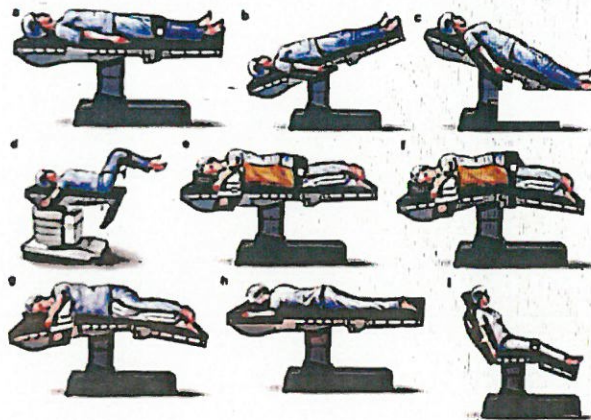
The right side is up

Reverse Trendelenburg position is used

Disadvantage : The CO₂ used in the surgery

↓
enters beneath the right dome of diaphragm

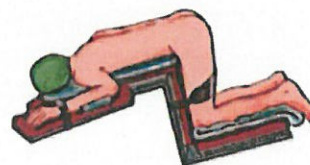
↓
Irritates the diaphragm causing right shoulder tip pain.



a. Supine, b. Trendelenburg position, c. Reverse Trendelenburg
position, d. Lithotomy position, e & f. Lateral/kidney position,
h. Prone position, i. Sitting/ Fowler's position.

Jackknife position :

It was earlier used for
haemorrhoid & fissure
surgery. It causes positional
asphyxia. Therefore,
not used any longer.

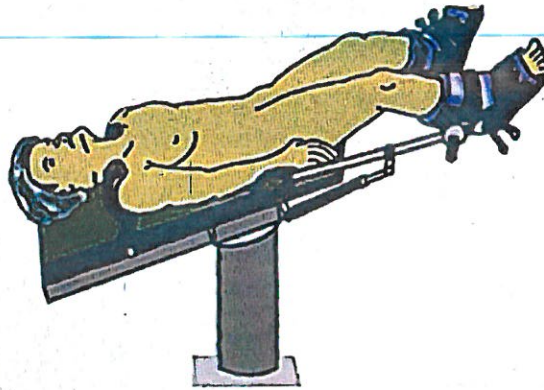


Active space

Lloyd Davis positions :

It is a Trendelenburg + lithotomy position.

It is used for APR [abdominal perineal resection]
and LAR [low anterior resection].

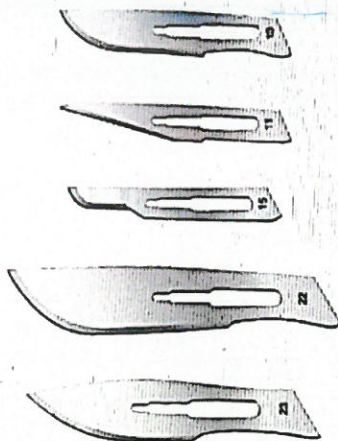


SURGICAL BLADES AND ENERGY SOURCES

7

Surgical blades

00:00:26



- No 11. Pointed/ Stab blade : Used for Incision and drainage
Also used for arteriotomy (incision in the artery).
- No 12. Curved blade : For suture removal.
- No. 10, 15, 20, 21, 22, 23 :
These blades have a belly which is the curved portion of the blade.
 - Blades with belly are used to make incisions.
 - The belly of the blade is the sharpest portion of a blade.

Bard Parkers Handle :

used to hold the blade like a pen or to palm it. It is the correct way of holding the blade.



Always use a mosquito forceps to hold the blade while mounting it on the BP handle.

Passing sharp objects in OT :

- Ideal : kidney tray.
- Not available : Pass the needle with the pointed end towards you.

Making an incision :

- Blade perpendicular to skin, otherwise there will be undermined or bevelled edges.
- Far to near.
- Opposite side to same side (for eg : a left handed surgeon will make incision from his/her right to the left)

The blade is mounted on the BP handle with help of a forceps ex mosquito forceps to avoid accidental injuries. the BP handle is always passed in the kidney tray.

A stab incision is made at the point of maximum tenderness and fluctuation and with the No 11 blade and then taken out, First the blood comes out then the pus starts draining out.

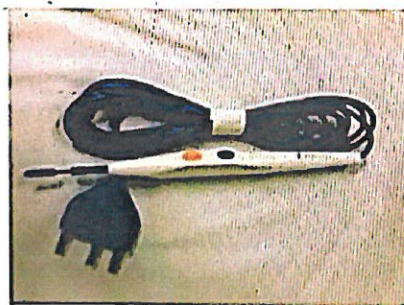
Factors while planning an incision :

- Skin tension lines (Langer's lines) represent orientation of dermal collagen fibres and incisions should be placed parallel to them, then wounds will heal better.
- Anatomical structures : must be careful not to injure surrounding neurovascular structures.
- Cosmetic factors.
- Adequate access.

Energy sources

00:10:00

The most commonly used energy source is cautery.



monopolar cautery



bipolar cautery