Sawa University

جامعة ساوة الاهلية
كلية التقنيات الصحية والطبية
قسم التخدير - اللجنة العلمية

تقنيات اجهزة تخدير الكورس الاول

INVASIVE BLOOD PRESSURE MONITORING

Sawa University

College of health and medical techniques

Department of Anesthesia

Four Stage

جامعة ساوة الاهلية

كلية التقنيات الصحية والطبية

قسم تقنيات التخدير

المرحلة الرابعة

محاضرة رقم2

Lecture No2

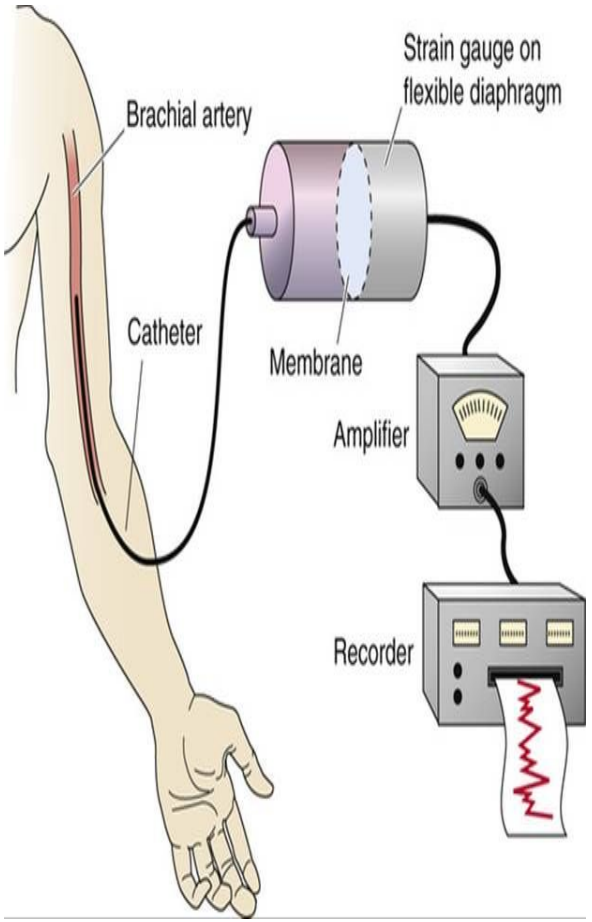
الجانب النظري

Theoretical

استاذ المادة :م.د سامي رحيم حسن

Definition

- Invasive Blood Pressure Monitoring is the continuous measurement of arterial pressure using a catheter inserted directly into an artery.
- It is connected to a pressure transducer that converts pressure waves into electrical signals.
- It is the gold standard for accurate and continuous arterial blood pressure measurement.



Indications

Used when:

1- Continuous, beat-to-beat BP measurement is required.

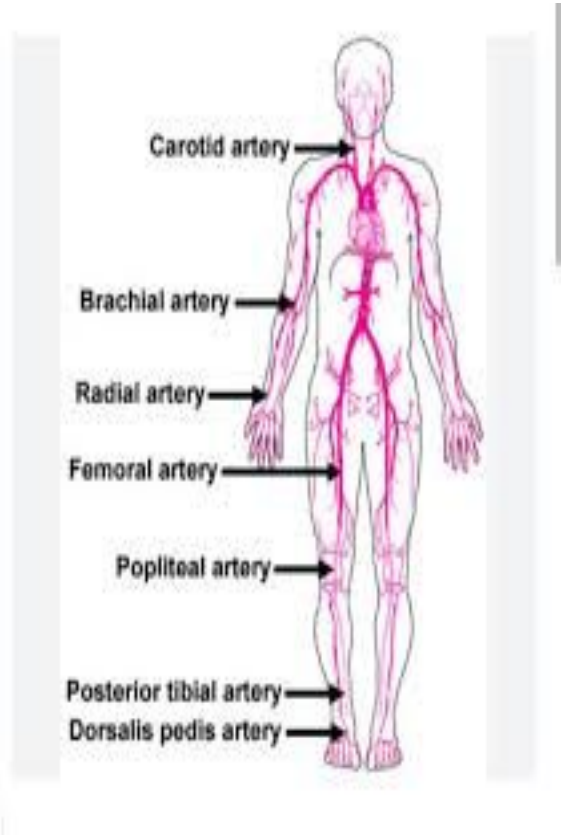
2- Patients are critically ill or under major surgery.

3- Anticipated rapid hemodynamic changes.

4- Frequent arterial blood sampling is needed.

Common Arterial Sites

1. Radial artery – most common, easy access.
2. Femoral artery – during low perfusion or shock.
3. Brachial artery – alternative site.
4. Dorsalis pedis or posterior tibial artery – in specific cases.



Equipment Required

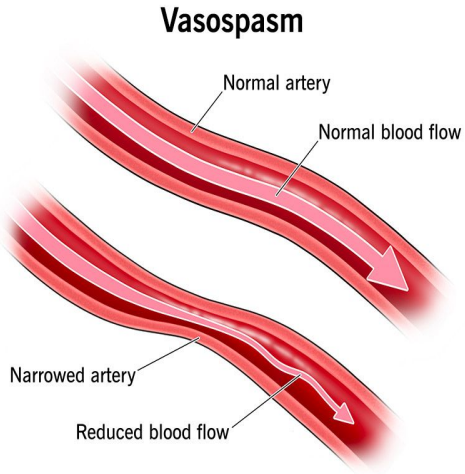
1. Arterial catheter (20G–22G(
2. Pressure tubing and flush system
3. - 500 mL saline with 3 mL heparin
4. Pressure bag (300 mmHg
5. Pressure transducer and monitor
6. Sterile field and insertion kit

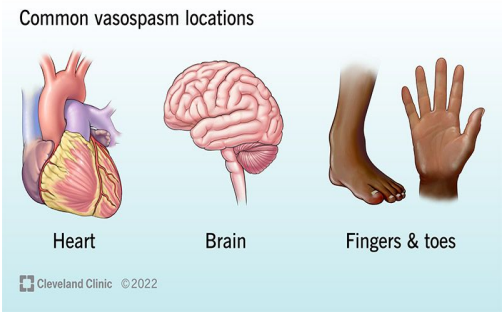
Principle of Operation

- The pressure in the artery is transmitted via the fluid-filled tubing to the transducer.
- The transducer converts pressure into an electrical signal.
- The monitor displays the arterial waveform and values for systolic, diastolic, and mean arterial pressure.

Complications

1. Infection
2. Thrombosis or embolism
3. Hemorrhage
4. Arterial spasm or occlusion
5. Nerve injury





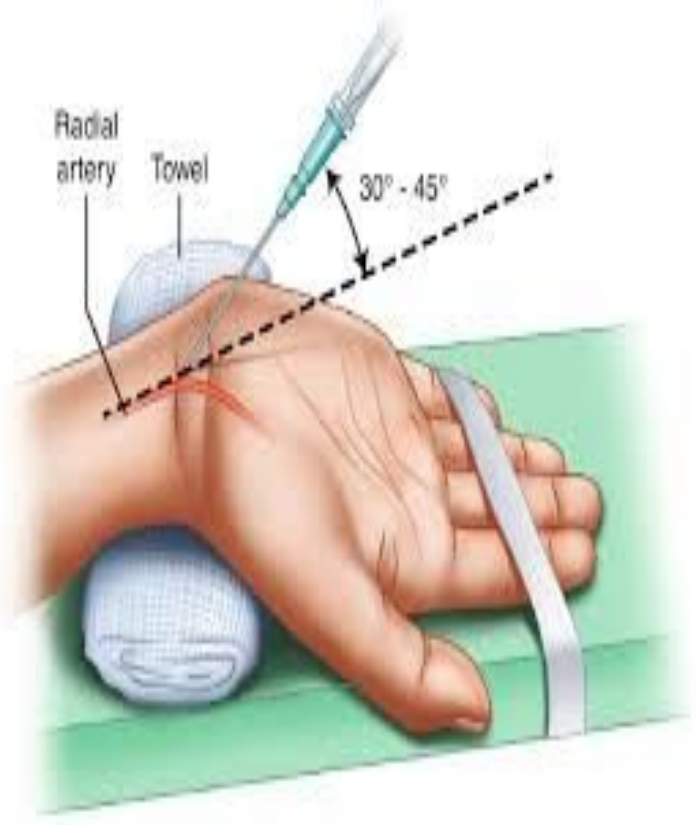
- Prevention: strict aseptic technique, proper site care, frequent observation.

Advantages

1. Continuous and accurate BP monitoring.
2. Early detection of hemodynamic instability.
3. Allows frequent blood sampling.

Disadvantages

1. Invasive and risk of complications.
2. Requires technical skill.
3. Costly and time-consuming setup.



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