

Selection of Intracranial Pressure (ICP) Catheter Device



Before proceeding, contact neurosurgery to identify the type of catheter to be inserted. The catheter type will define the equipment requirements and preparation needed.

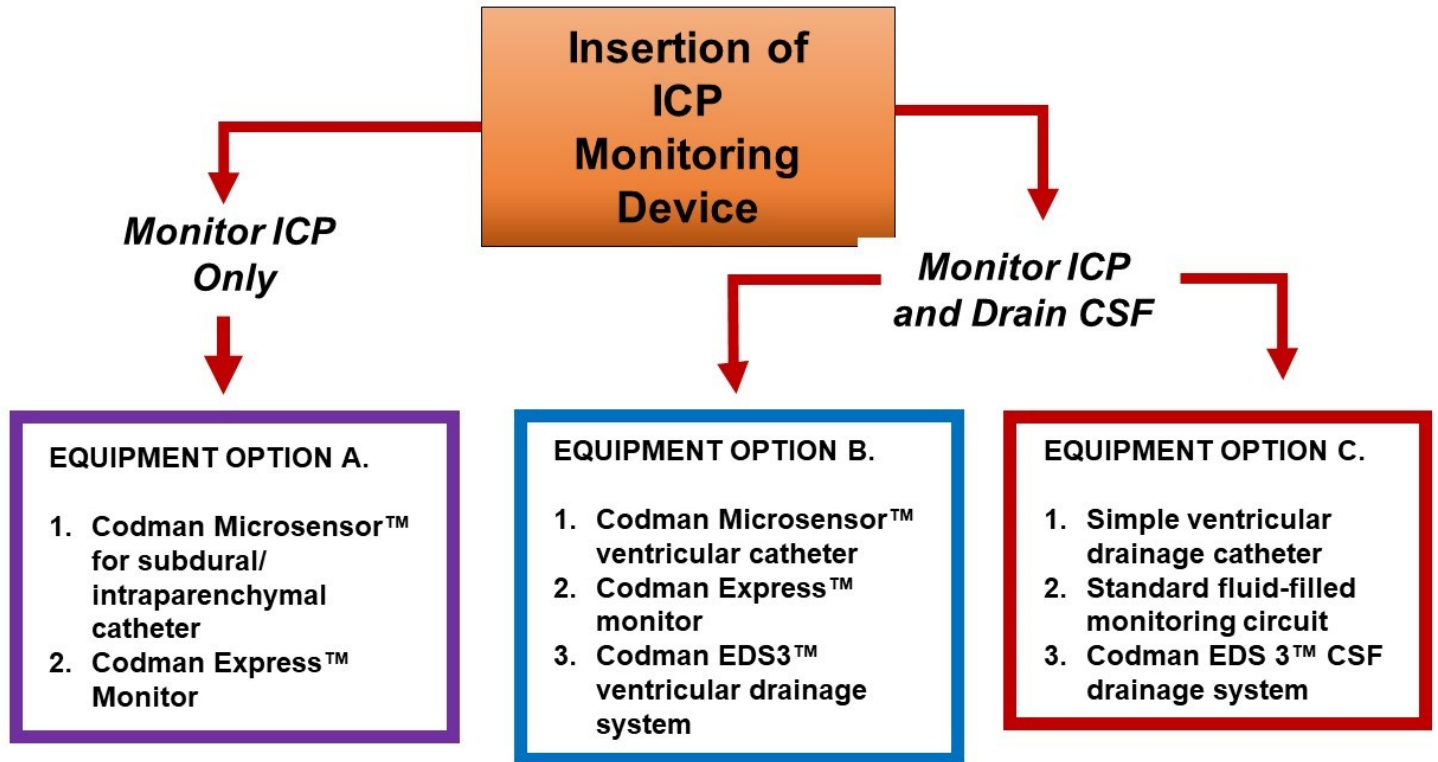


Figure 1: Choosing ICP Device and Monitor Method

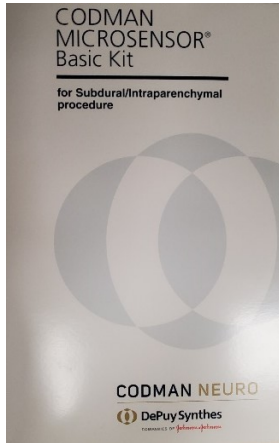
1. Select the type of ICP monitoring device
2. Obtain the type of monitoring device
3. Obtain a CSF drainage collection system if required

Codman Microsensor™

Codman Microsensor™ are catheters measure intracranial pressure via a strain gauge microchip located at the tip of the catheter. Microsensor™ catheters are connected to the Codman Express™ monitor to obtain pressure measurements. Unlike fluid filled pressure monitoring, pressure transmission is unaffected by obstructed fluid paths (e.g., from clot or tissue). There are two Codman Microsensor™ catheters available (subdural/intraparenchymal and ventricular).

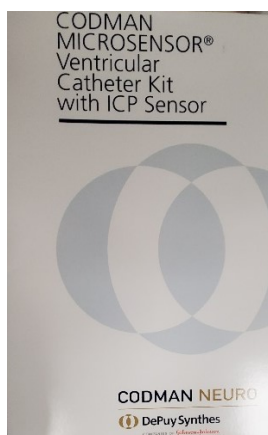
**OPTION A.
MONITORING PRESSURE ONLY (NO DRAINAGE):
Codman Microsensor™ Subdural/Intraparenchymal Catheter:**

Catheter can be inserted into the subdural space or superficial cerebral cortex (intraparenchymal) to measure pressure. There is no CSF drainage option. It may be used for monitoring when ventricles are too small to access, or in patients with normal intracranial pressure who are at risk to develop elevated pressures. If ICP increases, the intraparenchymal catheter may be switched to an external ventricular drain for increased accuracy and to enable CSF drainage.



**OPTION B.
MONITORING PRESSURE AND CSF DRAINAGE:
Codman Microsensor Ventricular Catheter™ (Most Frequent Method)**

This is an external ventricular drainage catheter that contains a microsensor for pressure monitoring. It is connected to an external CSF drainage unit. This allows CSF to be removed if needed to help reduce intracranial pressure/treat hydrocephalus.



OPTION C.

SIMPLE VENTRICULAR DRAINAGE CATHETER AND FLUID FILLED PRESSURE MONITORING Standard Intraventricular Drainage Catheter (fluid filled pressure monitoring):

The standard ventricular catheter is used to measure ICP and to drain CSF. A straight silicone drainage catheter is inserted into the ventricle (usually lateral ventricle) and can be used to remove CSF. The catheter is connected to a fluid filled pressure system with conventional transducer for pressure monitoring. An external CSF drainage collecting system is connected.



1. Obtain supplies to insert ICP Catheter (for all 3 types of catheters):

- Ventricular Drainage Tray (ensure drill is packaged with tray)
- Hair clipper with clipper head
- Line cart
- Sterile gowns
- Large sterile drape and sterile towels
- Local anaesthetic
- Tegaderm™ dressing

2. Obtain CSF drainage collection unit for either type of ventricular drain (Codman EDS 3™)

Both the Codman Microsensor™ ventricular drainage catheter and the standard ventricular drainage catheter require a CSF drainage unit. There is no drainage of CSF with an intraparenchymal catheter.

Supplies Needed:

- Codman EDS 3™
- Standard pressure transducer kit (used to flush drainage unit)
- 500 ml bag of normal saline
- Codman laser level
- Portable IV pole

3. Obtain supplies for pressure monitoring:

Microsensor™ catheters (intraparenchymal or intraventricular):

- Codman Express™ monitor
- Codman Express™ microsensor cable (should be attached to front of Codman Express™)
- Codman™-Philips™ pressure cable for transferring pressure from the Codman Express™ to the Philips™ bedside monitor. (should be attached to back of Codman Express™)

Standard Intraventricular Drainage Catheter:

- Philips™ pressure module
- Philips™ pressure monitoring cable