METHODS
Comprehensive literature search was performed for studies measuring ICP-v and ICP-bt simultaneously in adults in:
Medline | CINAHL | Embase | Scopus

Five authors individually reviewed the articles to meet our criteria. (Figure 1)

RESULTS
Of the 47 articles reviewed, 12 were analyzed. (Figure 2 and Table 1)

Of the 12 studies: Six were comparative. Four were observational and two cross-sectional design.

There was time of publication influence in the design of studies:
- Earlier studies: retrospective and compared EVD and IPM values.
- Later studies: prospective and confirmed that increases in ICP values resulted in smaller differences between ICP-bt and ICP-v values.

Compartmental difference: Slavin & Misra found differences between the infratentorial and supratentorial ICP (between 2 to 8 mmHg).

Drain status open or closed: ICP-bt and ICP-v difference between the open and closed status of EVD: Vender et al. demonstrated ICP-bt and ICP-v lack correlation when the drain is open vs. closed.

Variability of measurements between ICP-bt and ICP-v ranges:
- ±7 mmHg (Lescot et al.)
- ±3 mmHg (Berlin et al.)

Absolute ICP values dictate variability in correlation between ICP-bt and ICP-v:

- Best with ICP values beyond 25 mmHg in either (r=0.61)
- Less if ICP <25 mmHg in either monitors (r=0.42)
- Questionable if ICP <20 mmHg (r=0.36)

Correlation of ICP-bt and ICP-v are determined by open drain status and by the actual value of the ICP measured.

BACKGROUND
A variety of intracranial pressure (ICP) monitoring devices have been developed in years since 1866. External ventricular drain (EVD) is often considered as the reference standard for ICP values. Numerous other locations and monitoring systems (epidural, subdural, subarachnoid and intraparenchymatous (IPM), fiber-optic) are now available. Multiple studies describe statistically and clinically significant differences in ICP using IPM and EVD.

We propose two new terms that more accurately identify the anatomical structure for the referenced ICP:
- ICP-v = Intracranial pressure ventricular
- ICP-bt = Intracranial pressure brain tissue

OBJECTIVES
1. To identify literature related to simultaneous measurements of ICP using ventricular and parenchymal methods.
2. To assess the agreement in the measurements of both techniques.

RESULTS
Of the 47 articles reviewed, 12 were analyzed.

(2016) The mean difference was less than 0.1 mmHg

R = Retrospective; P = Prospective

Table 1: Studies selected for systematic review and their details

CONCLUSION
- Existing literature does not differentiate the difference between the measurement of ICP in different compartments or its source.
- Variability between the modalities of measurements of ICP exist and are determined by: Compartment of measurement, Actual ICP value, and Status of the drain.
- It is important to report ICP-v and ICP-bt as distinctly different measures.