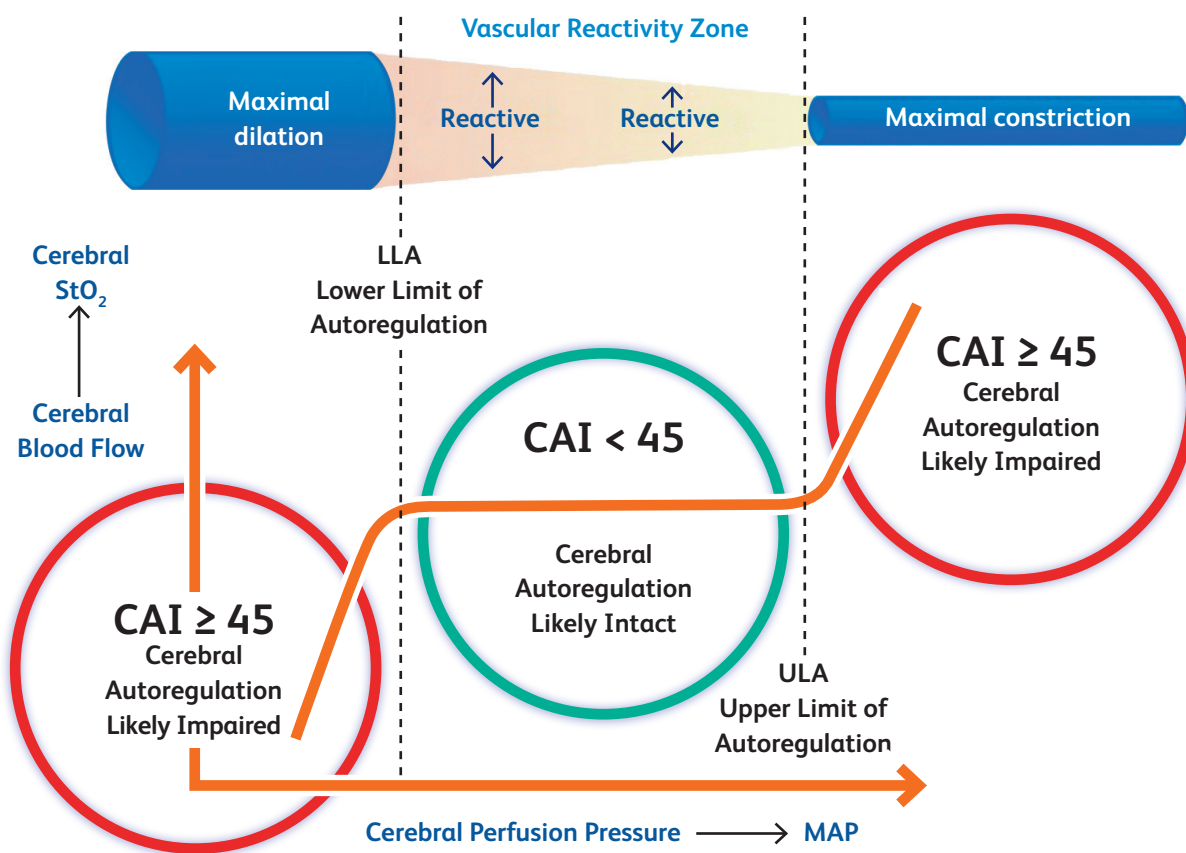


ForeSight IQ™ Cerebral Autoregulation Index (CAI)

Cerebral Autoregulation

Cerebral autoregulation protects brain health by maintaining cerebral perfusion pressure and oxygen delivery to the brain despite changes in blood pressure by vasoconstricting or dilating the brain's vasculature. However, there are limits to this protection. The lower limit of cerebral autoregulation (LLA) and an upper limit of autoregulation (ULA) have traditionally been reported in adults to occur at a mean arterial pressure (MAP) of ~50 and ~150 mmHg. It is important to note that these limits can vary between individuals. Between these limits is a plateau where cerebral autoregulation is intact and able to maintain cerebral perfusion. Above or below these limits, cerebral perfusion tracks with blood pressure where the brain may be hypo- or hyperperfused, each of which can potentially have significant complications.



Smart Algorithm for Cerebral Autoregulation Index (CAI)

CAI is a derived parameter displayed on HemoSphere Alta™ Monitor that quantifies the dynamic relationship between mean arterial pressure (MAP) and cerebral StO₂. Cerebral blood flow can be represented by cerebral StO₂ from ForeSight IQ™ Sensor and cerebral perfusion pressure (CPP) represented by MAP with any BD arterial pressure transducer.

The CAI value updates every 20 seconds and displays a value on a scale from 0 to 100. This value equates to the level of coherence between MAP and cerebral StO₂. CAI is not available in pediatric mode.

A high CAI value (CAI ≥ 45) means that MAP and cerebral StO₂ have greater coherence and informs the clinician that alterations in MAP may result in concomitant changes in cerebral StO₂, which may indicate that cerebral autoregulation is likely not intact. Alternatively, a low CAI value (CAI < 45) means there is lower coherence likely reflecting an intact cerebral autoregulation.

CAI Required Equipment



Only available on HemoSphere Alta™ Monitor



Any BD invasive arterial transducer



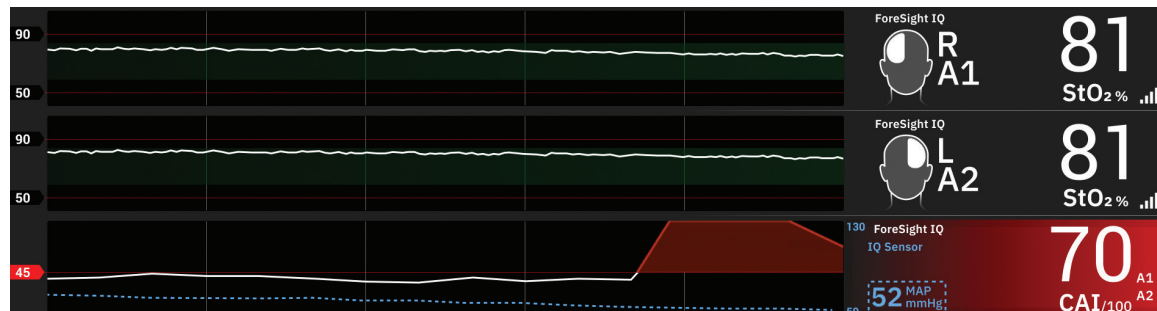
ForeSight™ Oximeter Cable (HEMFSM10)



ForeSight IQ™ Sensor(s) (FSMSLIQ)
Cerebral location on adults only

HemSphere Alta™ Monitor CAI Display

- ForeSight IQ™ CAI Parameter updates every 20 seconds with a value between 0–100
- Initial CAI value may take 5 minutes
- The CAI white trend line changes to red, with red shading, when the CAI value reaches 45 or higher
- The MAP is represented by the blue dotted trend line, and the current MAP value is shown in the blue dotted box within the CAI parameter tile



CAUTION

Inaccurate CAI values may be caused by:

- Inaccurate MAP measurements
- Inaccurate cerebral StO₂ measurements

The CAI parameter should not be used exclusively to treat patients. A review of all of the patient's hemodynamics is recommended prior to initiating treatment.

Summary

- The CAI value updates every 20 seconds and displays a value on a scale from 0 to 100
- A high CAI value (CAI ≥ 45) means that MAP and StO₂ have a greater coherence and informs the clinician that alterations in MAP may result in concomitant changes in cerebral oxygen saturation
 - This may occur when autoregulation is not intact, and the patient has likely reached either the lower (LLA) or upper (ULA) limit of cerebral autoregulation
- A low CAI value (CAI < 45) means there is a lower level of coherence between the two parameters and therefore alterations in MAP may not result in concomitant changes in cerebral oxygen saturation
 - This may occur when autoregulation is intact, and the patient is likely between the lower (LLA) and upper (ULA) limit of cerebral autoregulation
- CAI requires a ForeSight IQ™ Sensor for cerebral StO₂, a BD pressure transducer (TruWave™ Transducer, FloTrac™ Sensor or Acumen IQ™ Sensor) for arterial blood pressure and a HemoSphere Alta™ Monitor

CAUTION: Federal (United States) law restricts these devices to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.

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