

Cerebral aqueduct resistance

- Transmantle pressure under the influence of free breathing: non-invasive quantification of the aqueduct pressure gradient in healthy adults
- Assessment of neurofluid dynamics in relation to clinical improvement after tap-test: pilot study
- Tetraventricular hydrocephalus with aqueductal flow void: an overlooked entity having consistent improvement following endoscopic third ventriculostomy
- RAQ: A Noise-Resistant Calibration-Independent Compliance Surrogate
- RAQ: a novel surrogate for the craniospinal pressure-volume relationship
- Enhanced in vitro model of the CSF dynamics
- Mathematical Modelling of CSF Pulsatile Flow in Aqueduct Cerebri
- Numerical Cerebrospinal System Modeling in Fluid-Structure Interaction

[Aqueduct resistance](#), in a medical or physiological context, generally refers to the resistance to cerebrospinal fluid (CSF) flow through the cerebral aqueduct, a narrow channel connecting the third and fourth ventricles in the brain. This resistance can have implications for conditions such as **hydrocephalus**, where the accumulation of CSF occurs due to blockage or imbalance in production and absorption.

see also [Aqueductal stenosis](#).

[Phase contrast magnetic resonance imaging](#).

Key Points

1. Flow Dynamics:

1. The cerebral aqueduct is a bottleneck for [CSF flow](#) in the brain, and any [obstruction](#) or increased resistance can disrupt normal flow.
2. [Resistance](#) can be influenced by structural anomalies, tumors, scarring, or congenital narrowing.

2. Measuring Aqueduct Resistance:

1. Imaging techniques like [Phase Contrast Magnetic Resonance Imaging](#) are often used to assess CSF flow and calculate resistance.
2. Flow patterns, velocity, and pressure gradients help determine whether resistance is pathological.

3. Clinical Relevance:

1. Increased aqueduct resistance can lead to raised intracranial pressure and ventriculomegaly (enlargement of ventricles).
2. Common related conditions include **aqueductal stenosis** and **normal pressure hydrocephalus (NPH)**.

4. Management and Treatment:

1. Treatment depends on the underlying cause of resistance. For example:
 1. **Shunt placement** to divert CSF.
 2. **Endoscopic third ventriculostomy (ETV)** for bypassing the blockage.
2. Advances in neuroimaging are critical for guiding treatment decisions.

Phase contrast magnetic resonance imaging for cerebral aqueduct resistance

[Phase contrast magnetic resonance imaging for cerebral aqueduct resistance](#)

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