Midline Shift

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Definition

Midline shift refers to the shift of the brain beyond the centerline. The shifting of brain structures away from the side of a mass lesion (i.e., a left-sided lesion) will cause a right midline shift. Mass lesions are considered anything abnormal that occupies volume in the cranial vault, including tumor, hemorrhage, abscess, edema, or hydrocephalus. If midline shift is severe enough, it can lead to herniation (e.g., transtentorial, central, uncal, and subfalcine), and depending on the type and severity of herniation, certain clinical manifestations can occur, including hemiplegia, cranial nerve palsies, coma, respiratory depression, and even death. Significant midline shift

can be caused by stroke or brain injury and is often evident on neuroimaging including computerized tomography (CT). Midline shift can predict mortality after trauma, especially when the difference between the thickness of the hematoma and the midline shift exceeds or is equal to 3 mm.

Cross-References

- [Computed Tomography](#)
- [Mass Effect](#)
- [Neuroimaging](#)
- [Severe Brain Injury](#)

References and Readings

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