

# Venous air embolism (VAE)

- [Anesthesiology Considerations and Management of Venous Air Embolism in Patients in the Semisitting Position: A Single-Center Review](#)
- [A Bibliometric Analysis of Sitting Position and Air Embolism in Neurosurgery: Top 100 Most Cited Articles](#)
- [Semi-sitting position and retrosigmoid approach for a large petroclival meningioma resection: 3-dimensional operative video](#)
- [Microsurgical Resection of a Midbrain Cavernous Malformation via the Paramedian Supracerebellar Infratentorial Translateral Mesencephalic Sulcus Approach Using the Dynamic Lateral Semisitting Position: Two-Dimensional Operative Video with 3-Dimensional Anatomical Models](#)
- [Unexpected pulmonary edema following sitting position craniotomy: A venous air embolism complication](#)
- [Outcomes and Complications of Posterior Fossa Surgery in Sitting Versus Park-Bench Positions](#)
- [Exploring anesthesia-related complications in pediatric neurosurgery: a comparative analysis of the sitting and park-bench positions](#)
- [Right-to-left-shunts in patients scheduled for neurosurgical intervention in semi-sitting position - a literature review based on two case scenarios](#)

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Venous [air embolism](#) (VAE) refers to the presence of air or gas within the [venous system](#), which can be potentially life-threatening.

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## Etiology

Venous air embolism is a predominantly iatrogenic complication that occurs when atmospheric gas is introduced into the systemic venous system.

## Risk factors

[Venous air embolism risk factors](#).

## Complications

[Air](#) is entrained in the [vein](#) and can become trapped in the right atrium of the heart, which may impair venous return, causing [hypotension](#). May also produce cardiac [arrhythmias](#). Paradoxical [air embolism](#) can occur in the presence of a patent [foramen ovale](#) <sup>1)</sup> or pulmonary AV fistula, and may produce ischemic [cerebral infarction](#).

## Prevention

[Venous air embolism prevention.](#)

## Monitoring

[Venous air embolism monitoring.](#)

## Case reports

[Venous air embolism case reports.](#)

<sup>1)</sup>  
Black S, Cucchiara RF, Nishimura RA, et al. Parameters Affecting Occurrence of Paradoxical Air Embolism. Anesthesiology. 1989; 71:235-241

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