

# Effects of PFO Closure on Glymphatic Function and Clinical Symptoms in Patients With Migraine

NCT07170176

---

Status	RECRUITING
Phase	Not Applicable
Sponsor	First Affiliated Hospital Xi'an Jiaotong University
Enrollment	150 participants

## Key Eligibility Criteria

---

### Inclusion (6)

- Adults aged 18 to 60 years.
- Diagnosed with patent foramen ovale (PFO) with significant right-to-left shunt.
- For the case group: Diagnosis of migraine (with or without aura) according to the International Classification of Headache Disorders (ICHD-3).
- For the control group: No history of migraine.
- Willing and able to provide written informed consent.
- ... and 1 more (see full listing online)

### Exclusion (4)

- Patients with a history of PFO closure or other migraine-related surgical treatments;
- Patients with other severe cardiac or neurological diseases, mental disorders, or psychological conditions;
- Patients with contraindications to closure surgery or MRI scans (e.g., severe infection, coagulation dysfunction, cardiac pacemakers, aneurysm clips, metallic foreign bodies in the eye, non-removable metal dentures, etc.);
- Patients unable to complete migraine symptom assessments or imaging examinations due to other reasons.

## Locations (2 total)

---

Luoyang Central Hospital, Luoyang, Henan, China  
The Second Hospital of Tianjin Medical University, Tianjin, Tianjin Municipality, China