

Zodiac Trial Results



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“Putting the head down at zero degrees increases the cerebral blood flow by 20%,” Dr. Alexandrov continued. “The longer these patients sit up at 30 degrees with a large vessel occlusion, the worse stroke symptoms get before thrombectomy. Maintaining the head at zero degrees until thrombectomy stabilizes blood flow and minimizes neurologic deterioration compared to 30 degrees.”

For Every:

-1.88 patients you sit up, 1 will deteriorate 2 points NIHSS

-2.48 patients you sit up, 1 will deteriorate 4 points NIHSS

WITH Significantly

- greater risk for death

- worse stroke severity at 24 hours, 7 days, or discharge

****No patients had aspiration pneumonia or other pulmonary complications**

ZODIAC Protocol for LVOs

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1. Direct to CT/CTA on ambulance stretcher*
2. Admission NIHSS while on route to the scanner
3. BP lowering and TNK as indicated in the scanner
4. NIHSS repeated at the time of CT/CTA completion with the patient at 0-degrees on the scanning bed; Team is looking through the imaging in the control room during this time
5. Patients with ASPECTS ≥ 3 or ALL posterior circulation cases are transferred flat at 0-degrees from the scanning bed to the stretcher; transported back to ED holding with head kept at 0-degrees with close monitoring of neurologic and pulmonary status; neurointerventional team called during this time
6. Head maintained at 0-degrees with close monitoring of neurologic and pulmonary status; continuous SpO2 monitoring added to routine reperfusion BP monitoring; $< 97\%$ = supplemental O2 started; **if concern for airway protection, turn patient onto side of occlusion**
7. Repeat NIHSS every 20 minutes until thrombectomy; capture a final NIHSS just prior to transferring the patient to the lab table for thrombectomy, or just prior to patient departure to CSC or TSC hospital

*Since patients almost always come in with the ECG monitor behind the head of the stretcher with the patient's head up at about 45-60 degrees, consider talking with EMS about placing the monitor on the side rails or between the patient's legs. You can't even get the head lowered to 30-degrees because of the monitor's placement.

For PSC/ASRH transfers to CSCs:

- Order and emphasize to transport company that patient must remain at 0-degrees throughout the transport process; turn onto occlusion side if airway is a concern
- On arrival to CSC, verify that patient is in 0-degree position; if not, determine whether PSC/ASRH ordered/emphasized 0-degree position; if so, report noncompliance to transport company administration; if not, report to PSC/ASRH stroke coordinator and emergency department medical director