

Obesity Linked to Increased Surgical Complications in Adolescents

According to a new study, obese adolescents undergoing surgery for Chiari malformation were nearly twice as likely to experience a major complication within 30 days of surgery compared to patients of normal weight. They were also significantly more likely to require an unplanned hospital readmission.

To investigate whether body weight affects surgical outcomes, researchers used a national database to analyze 4,257 adolescents who underwent posterior fossa decompression for Chiari malformation between 2015 and 2024. The patients had a median age of 14.4 years, 65% were female and 35% were male. Using standard CDC definitions, just over half were a healthy weight, 18% were overweight, and 28% were obese. The researchers then compared complications occurring during the first 30 days after surgery among the different weight groups.

Overall, obese patients had 93% higher adjusted odds of experiencing a major complication within 30 days of surgery and 47% higher odds of an unplanned hospital readmission than healthy-weight patients. Overweight patients, however, did not have a significantly higher risk. As obesity became more severe, the likelihood of complications and readmissions also increased.

The increase in complications was driven primarily by wound-related problems. Surgical site infections occurred more often in obese patients, particularly superficial wound infections. Peripheral nerve injuries were also more common, although they remained rare. In contrast, obesity was not associated with an increased risk of death, and the median hospital stay remained three days regardless of weight.

The authors suggest several reasons why obesity may increase surgical risk, including poorer wound healing, increased tissue thickness during surgery, chronic inflammation, and slightly longer operative times. They emphasize that obesity should not be considered a reason to avoid Chiari surgery, but rather a factor that may help surgeons better counsel families and plan perioperative care.

The study has several limitations. Because it relied on a national surgical database, the researchers could not evaluate differences in surgical technique, long-term symptom improvement, or complications occurring more than 30 days after surgery. The database also did not include information on factors such as obstructive sleep apnea or other aspects of metabolic health that could influence outcomes.

Despite these limitations, this is the largest study to date examining the relationship between obesity and surgical outcomes in adolescents undergoing Chiari decompression. The findings suggest that while most obese adolescents recover well after surgery, they face a higher risk of short-term postoperative complications, particularly wound-related problems and hospital readmission.

Source: Lu VM, Roach CS, Hwang SW. Defining the associations between weight, obesity and outcomes of posterior fossa decompression for Chiari malformation in adolescents. *Childs Nerv Syst.* 2026 Jul 24;42(1):309. doi: 10.1007/s00381-026-07401-x. PMID: 42498796.

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