

Letters

COMMENT & RESPONSE

Small-Bites Closure in Emergency Laparotomy

To the Editor The data from van den Berg and colleagues¹ on the impact of small bites in the STITCH trial are compelling, with a 49% to 34% reduction in hernia incidence. However, we believe the study obscures a more uncomfortable message of a fundamental limitation of suture-based closure that cannot be overcome with technique alone.

The probability curves of the patients remaining hernia-free diverge almost entirely within the first 2 years after surgery. After that, the curves largely run in parallel for the small- and large-bite groups. This trajectory is consistent with a model in which the closure technique influences the width of early scar formation.

With small bites, the zone of scar tissue is narrow, and forces are better distributed by numerous filaments crossing the repair site. This reduces pressure at the suture-tissue interface, decreasing suture pull-through, the process by which sutures cut through intact tissue. The resulting narrow scar reflects early successful tissue approximation and is predictive of a lasting and durable laparotomy closure.² However, the scar remains a fundamental weak point.

While the Davis law postulates that soft tissues remodel and hypertrophy because of mechanical strain, scar is not normal tissue. Rather than hypertrophy, abdominal wall scar tissue elongates and can fail. The main difference is that small bites create less substrate for eventual failure. They improve the odds but do not change the biology of scar.

One alternative not mentioned in the article is the use of permanent sutures. Despite an identical rate of long-term incisional hernia compared with the absorbable sutures used in the STITCH trial, the mechanism of failure differs.³ Permanent sutures do not maintain a lasting hold on tissues and can be stripped out intact at re-exploration, leaving only the scar,

which remodels and fails over time just as it does with absorbable sutures.

Two fundamentally different sutures produce equivalent hernia rates through entirely different failure pathways. This convergence suggests that suture itself may be the limiting variable. If optimizing technique reduces hernia incidence by one-third yet still leaves a third of patients affected, and if changing the material does not improve long-term rates, then what is needed is a different mechanism of closure. The ideal method would maintain strength at the fascial edge, minimize tissue tearing, and be stable over time. The STITCH trial's most important contribution may ultimately be defining the ceiling of what standard suture-based closure can achieve and point the surgical community to new solutions.

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