# Adverse influence of fibrin sealant on the healing of high-risk sutured colonic anastomoses.

Authors: Byrne DJ, Hardy J, Wood RA, McIntosh R, Hopwood D, Cuschieri A

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## Abstract:

The effect of fibrin glue sealing on sutured colonic anastomoses was studied using a 'high-risk' colon anastomosis model in the rat. Animals (n = 104) were randomized to have their sutured anastomosis sealed with fibrin glue or left untreated. They were assessed clinically until they were killed on the fourth day after surgery when contrast radiology, detailed post-mortem examination, anastomotic bursting pressure (ABP) and assessment of adhesion formation were performed. The clinical outcome was worse in the glued group (toxic or death from sepsis: 18 versus seven in the non-glued group; P = 0.0354), which also showed a significantly higher moderate to major leak rate (17 versus two in the non-glued group; P = 0.0009). The median ABP was significantly higher in the glued anastomosis group (96 versus 68 cmH2O in the non-glued group; P = 0.0367). Excessive perianastomotic adhesion formation was significantly greater in the glued group. Microscopic examination showed an extremely intense inflammatory reaction in the glued anastomoses compared with that in the untreated group. These results indicate that sealing of a sutured anastomosis with fibrin glue containing an antiproteinase impairs healing the of anastomotic wound, probably by resisting the ingrowth of vascular granulation tissue during the early stages of repair.