## Now No Knots to Tie

Barbed absorbable suture material is created by introducing unidirectional barbs that become lodged in tissue, creating multiple anchor points that distribute tension along the suture line. Barbed sutures may allow for quicker surgeries and fewer wound complications as they do not require knots for security at the end of a continuous suture line. This suture is common for human urinary, GI, and reconstructive surgeries and has been used extensively during laparoscopy, eliminating the need for intracorporeal knot tying.

This study compared barbed suture material with available absorbable suture material. Healthy small intestinal tissue from 4 euthanized dogs was used to make test constructs by anastomosis of 2 sections with the selected suture. Appositional techniques were used employing 2 simple continuous sutures; results for leakage and maximum intraluminal pressure were compared. Anastomoses closed with barbed glycomer 631 suture leaked at a higher intraluminal pressure than those closed conventionally. Barbed suture could cause greater tissue trauma, and as the barbed suture hole should be larger than the suture shaft, it may leak at a lower pressure than comparable nonbarbed sutures. However, leakage from suture holes was detected in each sample, suggesting barbs were no more traumatic than conventional suture. Barbed glycomer 631 (4-0) may be as effective as glycomer 631 (3-0 and 4-0) for use in intestinal anastomosis in dogs.

### Commentary

The 4-0 absorbable glycomer 631 (V-Loc, covidien.com) is barbed in such a manner to dismiss knot tying. In this study, the intestinal closure site leaked at 53 mm Hg for the barbed suture, whereas leakage was noted at 34 and 28 mm Hg for the 3-0 and 4-0 suture tied with knots, respectively. All groups had leakage through a suture hole. Here, the barbed, knotless suture provided a better seal than traditional suture. The barbs did not appear to cause more damage to the intestinal wall during passage, and the barbs held the anastomotic line secure under pressure. Use of this suture in laparoscopic procedures holds promise. *—Jonathan Miller, DVM, MS, DACVS*

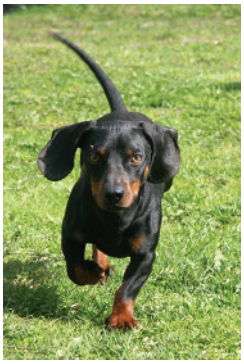
### Source

Evaluation of a novel suture material for closure of intestinal anastomoses in canine cadavers. Hansen LA, Monnet EL. *AM J VET RES* 73:1819-1823, 2012.

## FOCUS Measuring Lactate: And the Winner Is…

Lactate, a natural byproduct of anaerobic metabolism, increases in the blood following tissue hypoxia; accurate measurement of plasma lactate levels could provide information regarding prognosis and treatment responses for animals in critical care. Point-of-care, portable, lactate-measuring devices that are cost effective and accurate would prove useful. This study compares 2 portable lactate analyzers with a reference laboratory (a previously accepted method for lactate measurement).

Device A, previously shown to be accurate and cost effective, has been used mainly in human and equine patients. Device B has been used mainly in canine patients, but is costly to run, as a full blood gas panel is typically required each time. Eighty-five samples from 49 dog breeds including both hemodynamically stable and unstable patients were submitted for analysis using all 3 methods: device A, device B, and a reference laboratory. Both devices showed good agreement with reference laboratory when detecting significant elevations in plasma lactate levels; however, device B had better agreement. Device A requires a specific sample type and size to avoid error, potentially accounting for varying results between methods. The devices should not be used interchangeably.



### Commentary

While point-of-care testing is convenient, accuracy is also critical, as these test results are used not only for directing treatment but often for making diagnoses and prognosticating outcomes. Lactate has become a common point-of-care test in veterinary medicine and has been studied as a prognostic indicator in illness (eg, gastric dilation-volvulus). It can help assess response to fluid therapy and diagnose such diseases as septic peritonitis. Results should be interpreted with caution, not only with one specific analyzer, but also when comparing results from different analyzers while interpreting therapeutic response.*—Garret Pachtinger, VMD, DACVECC*

### Source

Comparison of two portable lactate meters in dogs. Karagiannis MH, Mann FA, Madsen RW, et al. *JAAHA* 49:8-15, 2013.