workers have used in performing the colorectal anastomosis using the circular stapler. However, we have some reservations about the technique.

How it is possible to detach the ice cube from the rectum when it was cross-stapled proximally? They have also mentioned that melting the hard ice cube is aided by body temperature – does this not increase the procedure time?

Did the authors bear in mind the effect of sub-zero temperatures in the area of the colorectal anastomoses? What were the effects of freezing and thawing on the rectal mucosa? The authors also claim to have performed this novel technique in 20 resections; it would be useful to know how many had defunctioning stomas.

We feel that the described technique is cumbersome and difficult to use; it adds extra time to the procedure and its effects on anastomotic healing have not been studied.

AUTHORS' RESPONSE

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In response to the reservations expressed by Mallick and colleagues regarding our novel technique to facilitate the use of circular staplers in colorectal anastomoses, we would like to clarify the following points:

1. The detachment of the ice cube from the stapling device is carried out through the abdomen by the operating surgeon pushing the ice cap off from outside the rectum and is aided by the rapid melting at body temperature as well as the slow advancement of the stapler anvil. The ice tip simply falls out of the shallow cup made by the end of the stapler. We have not noted an increase in the duration of any of the operations in which this technique was tested.
2. Of the patients who underwent reversal of Hartmann's procedures, none required defunctioning stomas.
3. Regarding the effect of low temperatures on the rectal mucosa, we believe the localised exposure of the bowel wall to sub-physiological temperatures is so short that it is extremely unlikely to result in physiological compromise in the perianastomotic region. In addition, it is common knowledge that the amount of heat required to melt ice (latent heat of fusion) is 80 calories (336 kJ) per gram.¹ The ice cube in our method has a weight of 10 g thus requiring 800 calories (3360 kJ) of energy. Cooling of a litre of water by 1°C will

provide 1000 calories (4200 kJ).² The temperature drop associated with ice melting is negligible taking into account blood flow, the surgeon's hand and the considerable larger mass of pelvic organs available for energy dissipation.

We believe that our technique of performing bowel anastomoses using circular staplers represents a technically easy and safe modification for the long rectal stump in which the flat end of the stapler is liable to 'catch' in the circular folds.

References

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COMMENT ON

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JK Smith, AG Acheson, JAD Simpson, J Stewart, IJ Beekingham, CB Gornall, JP Williams *et al.* From small acorns – developing a laparoscopic colorectal service. *Ann R Coll Surg Engl* 2008; **90**: 606–11

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Learning curve in laparoscopy and registrar training

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The article by Smith and colleagues rightly emphasises the learning curve in laparoscopic colorectal surgery. The department undertook a safe and step-wise approach to laparoscopic implementation. In this article, it took over 3 years before the consultants felt sufficiently experienced for a trainee to perform the procedure. As more departments opt for performing laparoscopic surgery, a similar process will be followed.

It must be recognised that this time period is going to have a significant impact on registrar training. It is the current group of registrars who will experience this effect, yet the expectations regarding what operations they are to perform has remained unchanged. Trainees are becoming very concerned that they will be criticised for being unable to manage bowel resections. Either, sub-specialisation needs to be properly implemented nation-wide on the on-call rota (thus reducing the number of trainees required to do extensive bowel resection) or training length is going to need to be increased. Surgical procedures are advancing, but there is fast becoming a void between trainee and consultant. The College needs to recognise this and assist the deaneries in bridging this gap.