

## Standard Operating Procedures

### Identifying and Tattooing Colo-Rectal Malignancy and Polyps.

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<b>Approved by:</b>	<b>Endoscopy Directorate Governance Meeting</b>
<b>Approved by Medicines Safety Committee:</b> <i>Where medicines included in guideline</i>	<b>N/A</b>
<b>Date of Approval:</b>	<b>9<sup>th</sup> September 2024</b>
<b>Date of Review:</b> This is the most current document and is to be used until a revised version is available	<b>9<sup>th</sup> September 2027</b>

#### Aim and scope of Standard Operating Procedure

This SOP will provide a process for the management of patients with an identified lesion either malignancy or polyp within their large bowel that requires further investigation including tattooing.

#### Target Staff Categories

Gastroenterology Consultants  
 Colo-Rectal Consultants  
 Consultant Endoscopists  
 Specialist Registrars  
 Clinical endoscopists  
 Locum and In-Sourcing providers  
 Endoscopy Nursing Teams

#### Key amendments to this Standard Operating Procedure

<b>Date</b>	<b>Amendment</b>	<b>Approved by:</b>
9 <sup>th</sup> September 2024	New Document approved	Endoscopy Directorate Meeting

## **1. Introduction:**

The finding of a suspected colorectal malignancy and the management of this is clearly defined in appendix 1

The finding of colorectal polyps and the management of this is clearly defined in Appendix 2.

Colon tattoos are used to mark lesions for subsequent surgical resection or for later endoscopic resection, or to mark an endoscopic resection site for easy endoscopic follow-up of the resection site. Tattooing is widely considered the best method of marking the colon.

Tattooing should be considered for obvious colorectal cancers and for lesions with suspected cancer, for adenomas with endoscopic features of cancer or with sufficient size to have a substantial risk of cancer ( $\geq 2$  cm in size is a reasonable guide), and for large flat or sessile lesions removed by piecemeal endoscopic mucosal resection (EMR) or by endoscopic submucosal dissection (ESD).

Tattooing is appropriate for such lesions in all colon locations, except it is not required in the cecum because the cecum itself is a reliable landmark for both endoscopic and surgical follow-up. (National Institute of Health and JAG guidance)

Local guidance from Colo-rectal Department is NOT to tattoo cancers within 12cm of the anal verge.

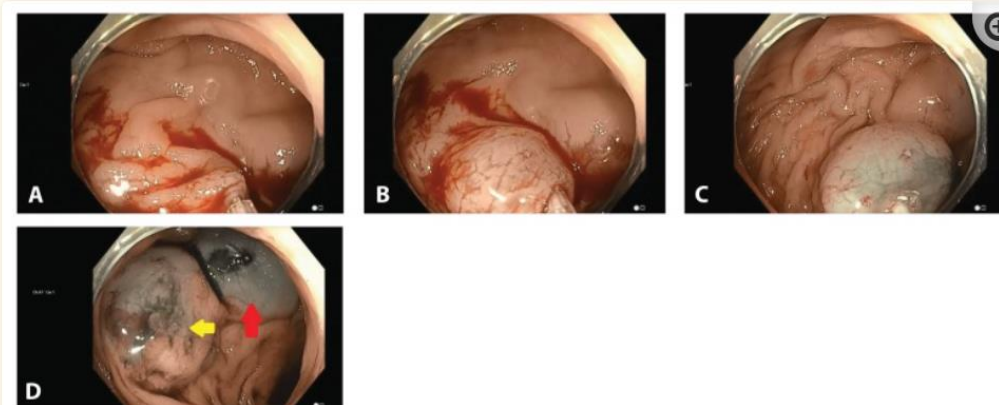
## **2. Scope of this Document:**

Tattooing of all lesions  $>20$ mm and/or suspicious of cancer outside of the rectum and caecum should take place in 100% of cases following local trust guidance. (see appendices)

As polyps increase in size the risk that they harbour cancer increases. All polyps should be marked by a tattoo. Lesions  $<2$ cm in diameter should be assessed by careful inspection and marked if they have high risk features.

There are 2 methods to reliably create an injection confined to the submucosa.

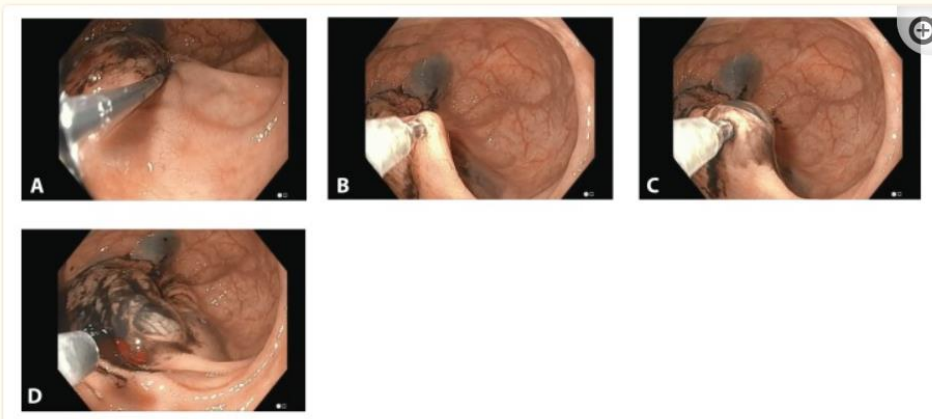
The most reliable method is to first place a 0.5- to 1.0-mL submucosal bleb of saline. Then, a needle to deliver the tattoo is inserted into the saline bleb, and the tattoo is injected. This technique will reliably ensure that the tattoo enters only the submucosal space.



**Figure 1.**

The saline bleb method of tattooing. The needle is placed in the submucosa (A), and a 1-mL saline bleb is created (B). The saline bleb is accessed with the catheter loaded with the tattoo (C). The yellow arrow points to the bleb after the addition of 1 mL of Spot dye to the saline bleb, and the red arrow points to a second site created by the same method (D).

The second method is direct injection of the tattoo into the submucosa. Expert endoscopists can perform this reliably by approaching the mucosa tangentially (rather than en face), inserting the needle, and lifting the needle toward the centre of the lumen. If the shape of the needle, including the bevel, is visible through the mucosa, the needle tip is reliably in the submucosa. A small injection is made to verify that a submucosal bleb develops, and then the injection is completed. The correct injection volume at each site is 0.75 to 1.0 ml.



**Figure 2.**

The direct method of tattooing. The needle is pushed through the mucosa (A). The catheter is then pulled back and lifted toward the lumen until the needle shape is evident through the mucosa (B). A small amount of Spot dye is injected, confirming the creation of the submucosal bleb (C). Four-quadrant tattoos are completed just distal to a cancer (D).

There is a clear local policy which has been agreed by multidisciplinary team meeting (MDT) defining the number of tattoos and their site relative to the lesion so that there is no ambiguity at the time of surgery or repeat endoscopy. The report should clearly describe the position of tattoo's and highlight any potential for confusion if there is more than one set of tattoos in the colon. This is clearly defined in Appendices 1&2

### **3. References:**

Post-polypectomy colonoscopy surveillance: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

<https://pubmed.ncbi.nlm.nih.gov/24030244/>

UK key performance indicators and quality assurance standards for colonoscopy

<https://gut.bmj.com/content/65/12/1923>

Endoscopic tattooing for colorectal lesions: impact on quality of care and patient outcomes <https://publishing.rcseng.ac.uk/doi/10.1308/rcsann.2020.0104>

The Appropriate Use and Techniques of Tattooing in the Colon

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6034606/>

Implantation metastasis from sigmoid colon cancer to rectal anastomosis proved by whole exome sequencing and lineage inference for cancer heterogeneity and evolution analysis: Case report and literature review

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9530747/>

### **4. Appendices:**

Appendix 1



Appendix 2



Appendix 3

