

Supplementary Table 1 Results from the consensus process: recommendations for minimising disagreement among reader (*adapted from* Mosli et al. Reproducibility of histological assessments of disease activity in UC. Gut. 2014 Oct 30. pii: gutjnl-2014-307536. doi: 10.1136/gutjnl-2014-307536)

Area of disagreement	Recommendations
Distinguishing epithelial damage from artefact	<p><u>Approach:</u></p> <ul style="list-style-type: none"> • <i>Use epithelial restitution.</i> • <i>Rely on adjacent epithelial cells.</i> • <i>Rely on recovering epithelium, which is flattened to cuboidal, and evaluate areas that are stripped.</i> • <i>Require the visualization of epithelial injury and regeneration.</i> • <i>If there are fibrin and neutrophils then score this area as erosion.</i>
Assessment of basal plasmacytosis and architecture in the presence of granulation tissue	<p><u>Approach:</u></p> <ul style="list-style-type: none"> • <i>Determine the presence of unequivocal ulceration.</i> • <i>Identify granulation tissue, which implies that an ulcer had been present.</i>
Disconcordant pieces of the same sample	<p><u>Approach:</u></p> <ul style="list-style-type: none"> • <i>Score the worst biopsy piece on the slide when calculating the total score.</i> • <i>For individual items that require additional scoring, score the worst areas on the slide.</i>
Distinguishing crypt destruction from damage or artefact	<p><u>Definition of crypt destruction:</u></p> <ul style="list-style-type: none"> • <i>Disappearance of crypt-lining cells and presence of a neutrophilic infiltrate.</i> <p><u>Approach:</u></p> <ul style="list-style-type: none"> • <i>Provide central readers with photos depicting the upper and lower ends of the spectrum of crypt destruction.</i>
Crypt distortion	<p><u>Definition of crypt shortening:</u></p> <ul style="list-style-type: none"> • <i>An abnormal gap between the base of the crypt and the muscularis mucosae in perpendicular sections.</i>
Basal plasmacytosis	<p><u>Definition of basal plasmacytosis:</u></p> <ul style="list-style-type: none"> • <i>Plasma cells between the muscularis mucosae and the crypt base and/or the presence of plasma cells in the lower lamina propria between the crypts with loss of the normal top-heavy gradient.</i>

Approach:

- *Basal plasmacytosis cannot be assessed in poorly oriented (transverse) sections.*
- *A score item qualifier (ex, tangentially oriented) should be added to indicate an inability to assess.*

Lamina propria
neutrophils

Definition:

- *Greater than one neutrophil in the lamina propria or abnormal epithelium.*

Approach:

- *High quality slides (appropriately stained and sectioned) are required to observe lamina propria neutrophils and neutrophils in the epithelium.*

Quality

Samples

- *Consider use of disposable versus reusable forceps [24].*
- *Consider use of oval elongated versus oval fenestrated cups. Samples obtained with oval elongated cups are generally deeper and those with oval fenestrated cups are generally larger. Fenestrated cups could potentially induce greater tissue damage.*

Sections

- *Samples should be 4-5 micron thick.*
- *Knives used for sectioning should be sharp (new) to avoid “chatter” and improve section quality to allow the identification of neutrophils and eosinophils.*

Staining

- *Use of haematoxylin and eosin should be balanced to improve the identification of neutrophils and eosinophils.*

Orientation

- *The use of “perpendicular sections” would address some of the problems associated with the assessment of basal plasmacytosis and crypt distortion. This requires orientation of the samples following acquisition, which can be both difficult and time consuming, particularly in patients with active disease involving the submucosa.*
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