

## Romanowski Stains

Faecal smears are made for the following reasons:

- ◆ Provide information on the exudate present.(Romanowsky stains)
- ◆ Helpful in accurately identifying flagellates. (Romanowsky stains, Iron haematoxylin)
- ◆ When parasites cannot be detected in either the direct wet preparation or concentrated deposit a permanent stain of a fresh faecal smear can reveal the presence of intestinal parasites. (Romanowsky stains, Trichrome stain, modified Ziehl-Neelsen)
- ◆ Useful in demonstrating the nuclear patterns of cysts thus facilitating identification. (Iron haematoxylin, Trichrome stain)

### 1. Romanowsky Stains

#### a) Modified Rapid Field's Stain<sup>2</sup>

This is a modification of Field's stain enabling rapid staining of fixed thin films of various clinical samples. This particular staining method is very useful for staining faecal smears, faecal exudate and duodenal aspirates.

##### Method.

- a) Make a thin film of faeces/exudate. Allow to air dry.
- b) Fix in methanol for 1 minute.
- c) Flood slide with 1 mL of Field's stain B (diluted 1:4 with distilled water)
- d) Immediately add an equal volume of undiluted Field's stain A, mix well and allow to stain for 1 minute.
- e) Rinse well in tap water and drain dry.

Flagella, cilia and nuclei stain red and the cytoplasm stains blue.

#### b) Giemsa stain

Giemsa stain can also be used to stain films of unformed faeces, faecal exudate and duodenal aspirates.

##### Method

- a) Make a thin film of faeces/exudate. Allow to air dry.
- b) Fix in methanol for 1 minute.
- c) Tip off the methanol and flood the slide with Giemsa stain diluted 1:10 with buffered distilled water. The diluted stain must be freshly prepared each time

- d) Stain for 20-25 minutes.
- e) Run tap water on to the slide to float off the stain and to prevent deposition of precipitate on to the film. Allow to drain dry
- f) Examine the film using the oil immersion objective.

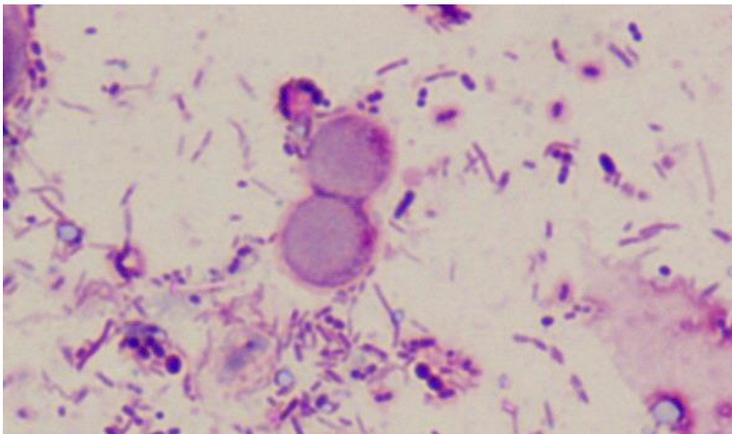
Flagella, cilia and nuclei stain red and the cytoplasm stains blue (see Colour Plate 2, page 54).

### Comment

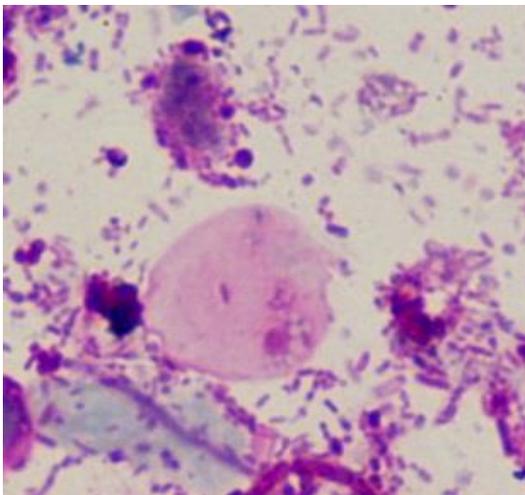
A permanent Romanowsky stain (i.e. Giemsa or Rapid Field's stain) should be used for bloody diarrhoea and for semi-formed stools with blood and/or mucus.

It provides information on:

- ◆ The exudate present.
- ◆ The presence of flagellate trophozoites.
- ◆ The presence of protozoa which are not readily detected or difficult to detect in the wet preparation e.g. *Dientamoeba fragilis* and *Blastocystis hominis*.
- ◆ The presence of protozoa which are destroyed by the formol-ether concentrate e.g. *Giardia lamblia*.



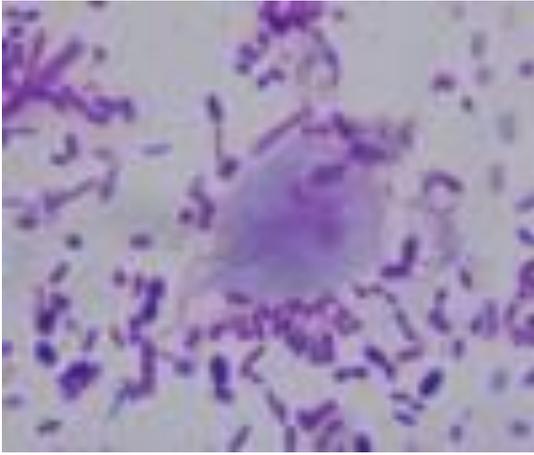
A trophozoite of *Blastocystis hominis*



A trophozoite of *Dientamoeba fragilis*

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A trophozoite of *Giardia*