ENDOSPORE STAINING

“ 240 MIC ”

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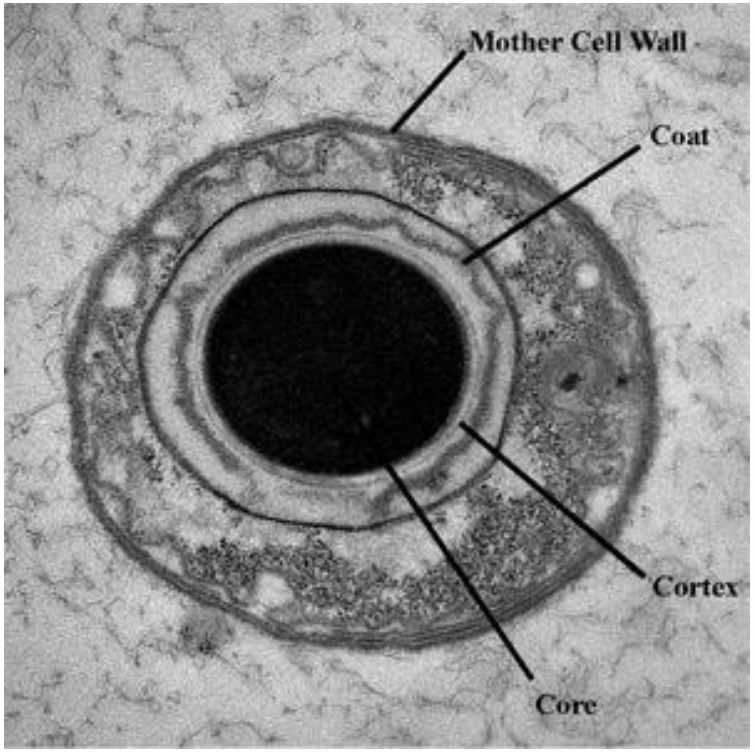
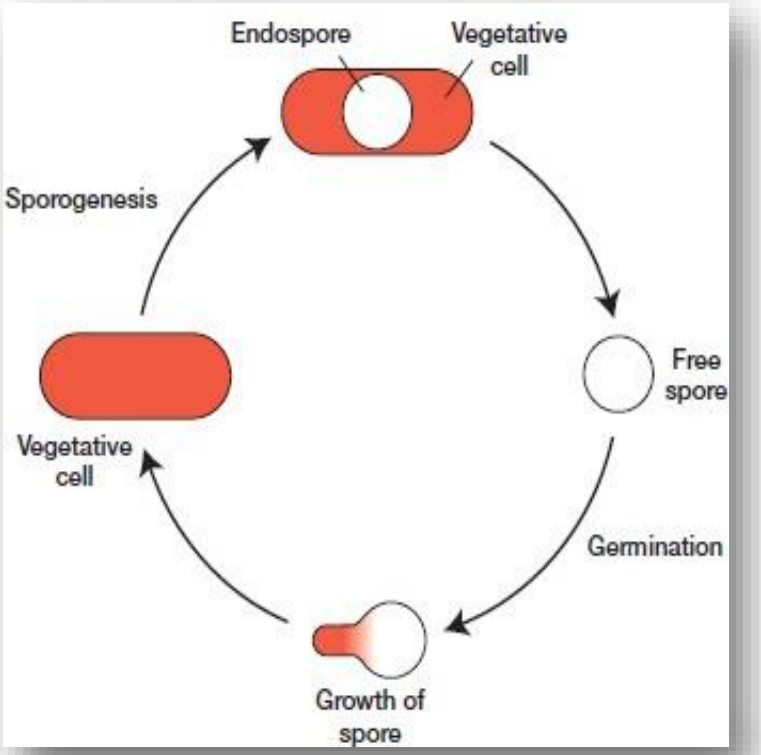
ENDOSPORE

a resistant asexual spore that develops inside some bacteria cells.

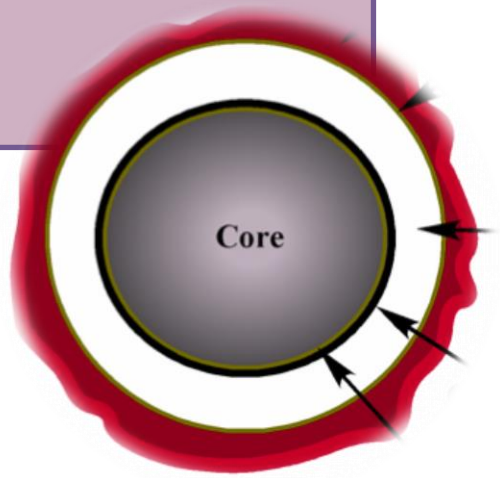




Bacteria in genera such as *Bacillus* and *Clostridium* produce quite a resistant structure capable of surviving for long periods in an unfavorable environment and then giving rise to a new bacterial cell.

This structure is called an **Endospore** since it develops within the bacterial cell.

Endospores are spherical to elliptical in shape and may be either smaller or larger than the parent bacterial cell.

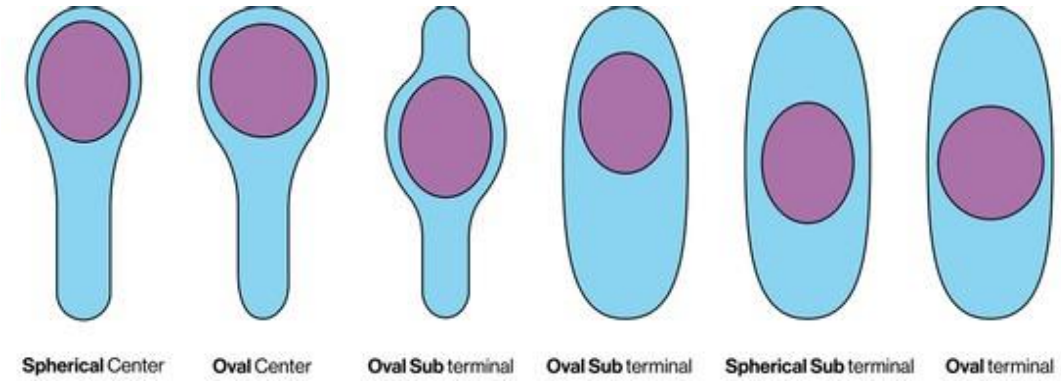


The **shape** and the **position** of spores vary in different species and can be useful for classification and identification purposes.

Endospores may be located:

- In the **middle** of the bacterium (**Central**).
-At the **end** of the bacterium (**Terminal**).
-**Near the end** of the bacteria (**Subterminal**) and may be spherical or elliptical.

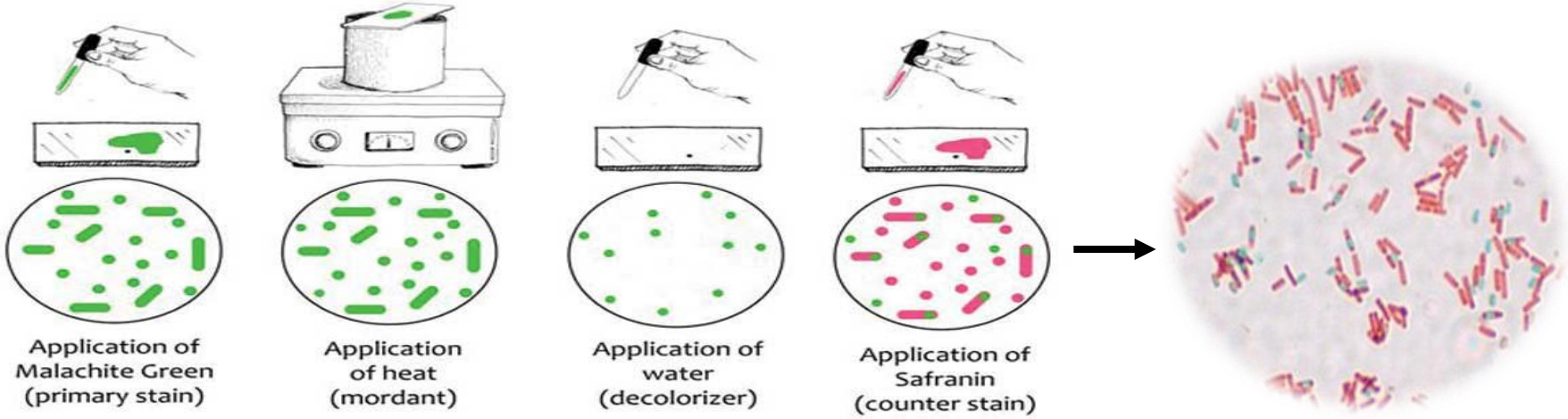
Endospores do not stain easily, but, once stained, they strongly resist decolorization. This property is the basis of the **Schaeffer-Fulton** or **Wirtz-Conklin method** of staining endospores.

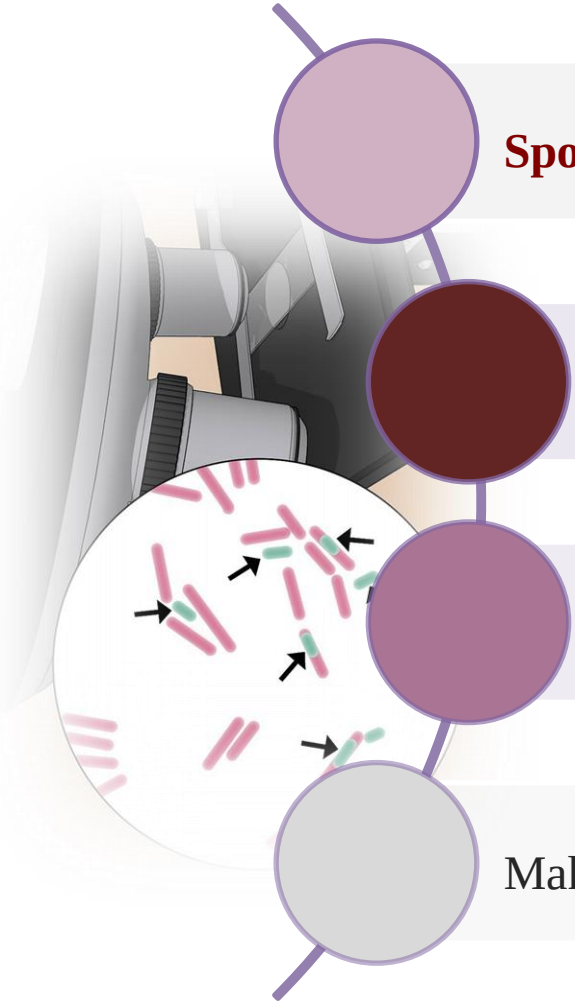


The endospores are stained with **malachite green**.

Heat is used to provide <u>stain penetration</u>.

The rest of the cell is then decolorized and counterstained a light red with **safranin**.



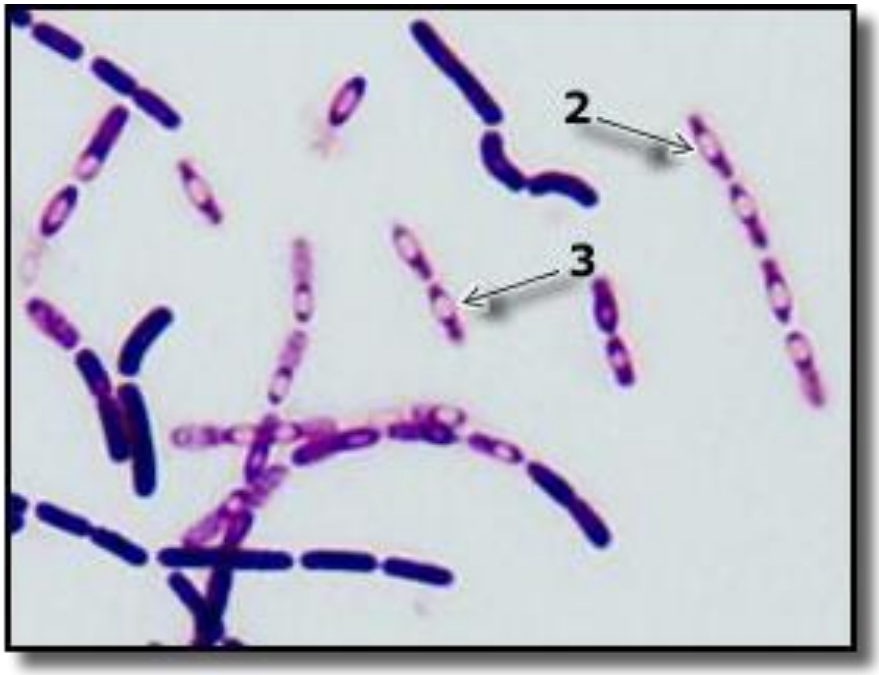


Spores stain a light green, while the rest of the cell stains pink.

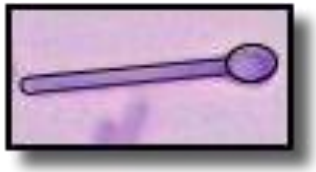
Spores are best seen with oil immersion microscopy.

Often, the colors are not very strong, so it is necessary to have the microscope in good alignment with optimum contrast and lighting.

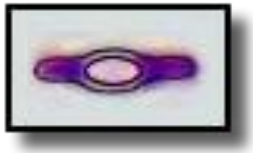
Make color notes right away, as the green may fade after a few days.



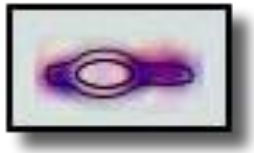
Terminal



Central



Subterminal



The End