

# MULTIPLE MYELOMA

Multiple Myeloma is a rare form of blood cancer: Cancerous plasma cells develop in the bone marrow and no longer produce working proteins, leading to the production of non-functioning antibodies.

The cause for Multiple Myeloma (MM) is not known. Several collections of cancerous plasma cells, plasmacytomas, form and appear throughout the entire body.

Early MM is often without symptoms (smouldering MM), while active MM patients can experience fever, loss of appetite, bone pain, and back pain. Signs of Multiple Myeloma include hypercalcaemia (kidneys), lytic bone lesions (often long bones, spine, ribs, and skull), and anaemia (blood). Treatment can include symptom relief and individualised cancer treatments (chemotherapy, radiation therapy etc.)

Additional risk factors can include, but are not limited to being of African descent, older and having a family history of MM.

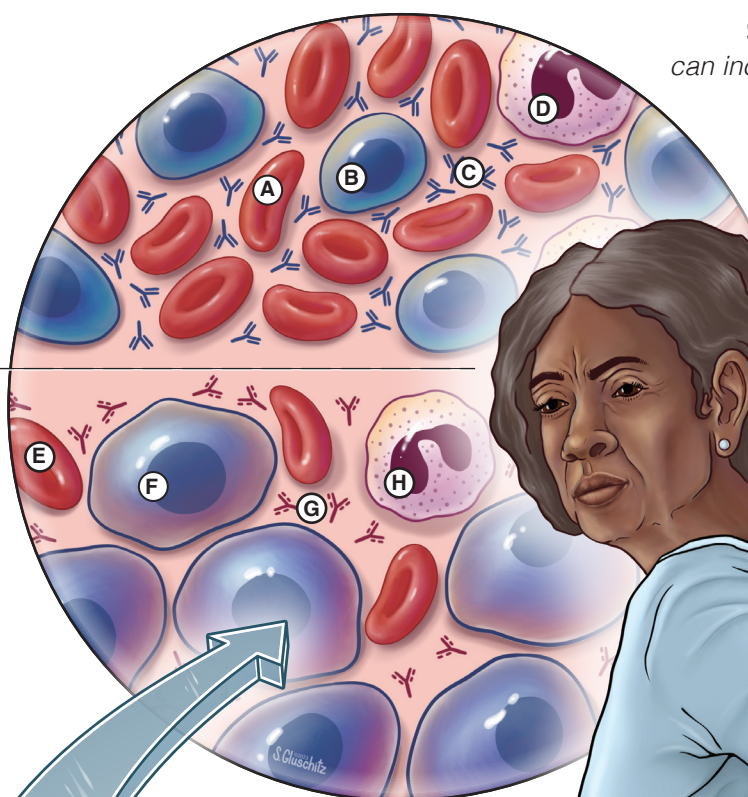
Survival rates for patients range from 40% to 82%.

## Healthy Blood

- (A) Abundant red blood cells
- (B) Healthy plasma cells
- (C) Healthy antibodies
- (D) Neutrophils

## Cancerous Blood

- (E) Reduced red blood cells
- (F) Cancerous plasma cells
- (G) Non-functioning antibodies
- (H) Neutrophils



## Signs and Symptoms

can include, but are not limited to

Hypercalcaemia  
Lytic bone lesions  
Anaemia

Fever  
Loss of appetite  
Bone pain  
Back pain

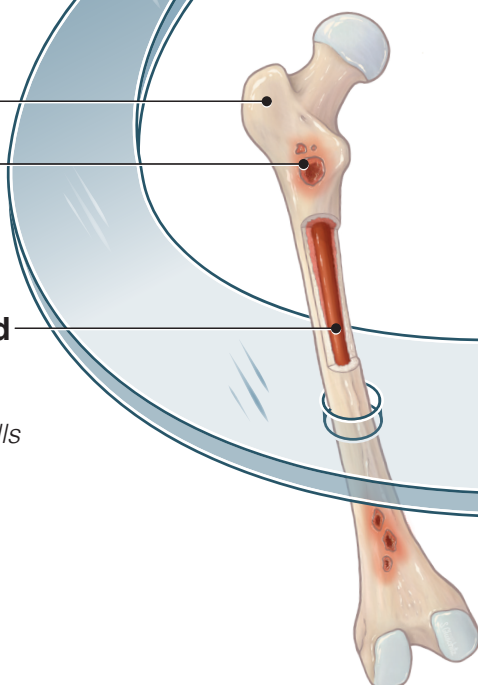
## Femur

### Lytic bone lesions

Multiple well-defined, 'punched out' holes in the bone

### Medullary cavity filled with bone marrow

Production of blood cells incl. cancerous plasma cells



Femur in situ