**Inflammatory response**

1. When stimulated by mechanical or chemical damage, mast cells release histamine, heparin and other substances. Mast cells stimulate and co-ordinate inflammation by releasing chemicals
2. Histamine increases blood flow through the area and causes the walls of the blood capillaries to become more permeable so that fluid is filtered from the blood. This increase in blood blow causes the heat and redness associated with inflammation, and the escape of fluid from the blood causes swelling
3. Heparin prevents clotting, so the release of heparin from the mast cells prevents clotting in the immediate area of the injury. A clot of the fluid around the damaged area does form and this slows the spread of the pathogen into healthy tissues
4. The chemicals released by the mast cells attract phagocytes. Macrophages and leucocytes actively consume micro-organisms and debris by phagocytosis
5. The abnormal conditions in the tissue stimulate pain receptors, and so the person feels pain in the inflamed area
6. The phagocytes, filled with bacteria, debris and dead cells, begin to die. The dead phagocytes and tissue fluid form a yellow liquid called pus
7. New cells are produced by mitosis and repair of the damaged tissues takes place