

Wound healing

Tissue damage and pain

The first response to a skin wound is rapid reflex action that takes the body away from the cause of damage.

Next stage is a temporary recovery of integrity by process of blood clotting to cover exposed area. If the wound is involved in a huge amount of blood loss (hemorrhage) that is not quickly staunched, then mechanisms that are within the body that rapidly restores blood pressure and blood volume become active, so the heart continues to function normally.

These wound response mechanisms depend on regulatory processes that operated over the body as a whole.

Depending on how bad the wound is there are different levels of the body's regulatory activities that are brought into operation.

Provisional recovery: inflammation and clean up

As soon as a blood vessel has been damaged and blood is released into the wound area, blood clotting mechanisms are turn on. A protein within the blood plasma changes from a soluble form which is known as **fibrinogen** and then into insoluble fibers of fibrin that become tangled together with blood cells and make a dense mat which is a **fibrin clot**.

This is a provisional extracellular matrix that is not unlike connective tissue with its tangled fibers, but it is made up of different proteins and is much denser.

When it dries out, the clot forms a scab. Within the wound blood vessels dilate and increase in diameter this happens because it