## NEW SKIN FOR BURNS

Stem-cell therapy has been used here since the late 1990s to grow new skin for patients who have suffered severe burns over 40 to 50 per cent of their bodies.

For such patients, grafts of skin taken from other parts of their body or donated skin will not suffice, as the wounds are so large that there is not enough skin from elsewhere to graft, and too deep for the skin to repair itself, said Professor Colin Song, director of Singapore General Hospital's (SGH) Burns Centre.

SGH treats an average of 12 such patients a year.

A 2cm-wide square of the top layer of healthy skin, called the epidermis, is taken from the patient's groin, and the cells – including some stem cells – separated in the laboratory.

All the cells are cultured on a layer of fibrin – a fibrous protein that helps blood clot – using a medium that allows them to multiply but not develop until they are transplanted, said Mr Alvin Chua, principal scientific officer at SGH's skin bank unit.

Typically, the sheet of skin can be grown from the size of a 50-cent coin to that of about two A4-size papers, over roughly three weeks, he said.

The mucus-like sheet of skin is then transferred onto the burnt skin, which the stem cells will replace.