

*Image 5. Breakdown of the skin in gluteal folds due to overexposure.*

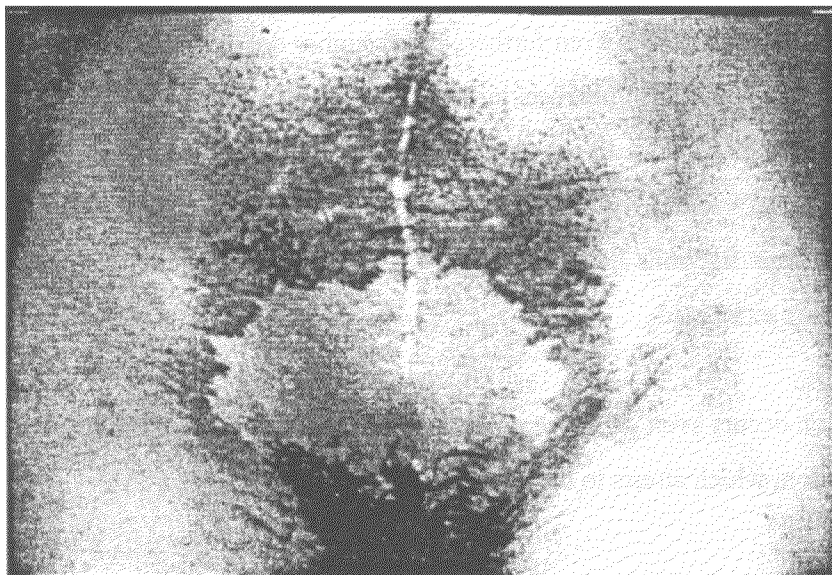


*Image 6. Severe non-healing ulceration (Grade 3 necrosis) of the vulva due to overexposure. The actual dose was about 30 Gy in two fractions of 15 Gy each.*

With megavoltage radiotherapy techniques, the most common indication that skin tolerance has been exceeded is subcutaneous fibrosis. This is usually a hard plaque below the pigmented skin surface (Image 7) and it is most pronounced where there is a layer of subcutaneous fat (Images 8, 9). The incidence of skin reactions is greatly influenced by the number of treatment fractions and the volume irradiated. As an example, severe fibrosis will develop in 20% of post-mastectomy patients who received 46 Gy (1.9 Gy per fraction) using the standard 5 fraction per week treatment scheme and in 80% of those who received 52 Gy (2.1 Gy per fraction). These figures can be compared against the data for two weekly fractions, where 20% of the patients developed severe fibrosis at 37 Gy (3.7 Gy per fraction) and 80% at 41 Gy (4.1 Gy per fraction).



*Image 7 Severe pigmentation, atrophy and skin fibrosis over the sacrum. Such skin is easily broken down with minimal trauma and is difficult to heal. Most such patients also had sacral plexus nerve and bowel complaints.*



*Image 8. Deep pigmentation with central scarring of the skin. Overexposure of to the underlying sensitive bowel has caused significant problems, including persistent bloody diarrhoea, bowel obstruction and anaemia.*