and sag. Several factors contribute to wrinkles, including persistent gravitational forces and loss of subcutaneous fat (Nigam and Knight, 2008).

Skin folds and creases in the peristomal skin (skin around the stoma) increase the likelihood of leakage between the stoma appliance and the abdomen (Turnbull, 2000). Creases can be identified by looking at the peristomal skin without a stoma appliance and asking the person to sit and bend to identify where the skin creases.

It is important to teach patients how to put their appliance onto wrinkled skin. Standing or sitting upright will mean the skin on the abdomen is stretched and as crease free as possible; they can then stretch the skin to obtain an even surface and use a mirror to check the flatness of the skin.

Creases can be filled in using an accessory such as a filler paste, with the aim of making the peristomal area as flat as possible so stoma appliances can adhere. Mouldable rings or strip paste can also be used.

Stoma nurses may recommend using a convex pouch if leakage is a problem. The convex shape produces an outward curve on the flange – the adhesive layer in contact with the skin – that pushes the stoma out. This helps direct the output from the stoma into the appliance rather than leaking onto the peristomal skin (Black, 2000). However, a stoma nurse should be involved in assessing individuals’ suitability for this type of appliance as inappropriate use can cause pressure damage, such as bruising or ulceration, to the peristomal skin area.

**Thin and dry skin**

The skin becomes thinner and drier with age and more prone to damage. It can tear or bruise more easily and healing takes longer.

This may be a problem for older people with a stoma as removing the appliance can result in skin damage. Appliance adhesive removers are available in spray or wipe form and can help to remove the flange without trauma to the peristomal skin.

Using a skin barrier wipe or thin layer of barrier cream may help to protect and moisturise the skin without making it greasy. Barrier creams containing glycerol and silicone gel do not interfere with the adhesion of the pouch if used sparingly.

Stoma nurses can give advice on products suitable for individual needs.

**WEIGHT LOSS OR WEIGHT GAIN**

Stomas change in size and shape throughout life and also with weight gain or loss (Rayson, 2003). They can become stretched if weight is gained, and the hole in the appliance may need to be enlarged; the hole may need to be reduced if weight is lost (Myers, 1996).

Patients should be reminded to periodically remeasure their stoma, particularly if their weight changes.

Excessive weight gain can also cause extra bulges and creases that may obstruct the stoma and the appliance should be reviewed if this occurs.

Stomas may become retracted as a result of weight loss or gain and accessories, such as stoma paste and rings, can be used to protect the skin and build up creases or dips. Convex pouches can also be used following assessment by a specialist nurse.

**PARASTOMAL HERNIA**

Parastomal hernias occur when the peritoneum bulges through the weakened muscle wall around a stoma. These can vary from a slight bulge to a large, unsightly swelling (Lawson, 2003) and are associated with ageing, weight loss and gain (Turnbull, 2009). Fig 2 shows an example of an incisional hernia associated with a stoma.

Lyon and Smith (2001) estimated that 2-3% of all people with a stoma will develop a hernia, whereas others suggest that up to 20% will be affected (Black, 2000).

Although the problem is usually managed with a support garment, sometimes surgery may be considered.

**ARTHRITIS AND DEXTERITY**

People who develop arthritis or whose manual dexterity is impaired should have regular reviews of their appliance.

Stoma appliances are continually being developed and people should be given an opportunity to try new devices. For example, two piece stoma systems originally had a mechanical coupling, similar to a Tupperware lid, which some patients found difficult to use because it required precision and pressure to attach. A newer adhesive coupling requires no pressure and is easier to secure. Fig 1 shows the two types of devices. Nurses should be aware that people need to feel confident that their appliance will not...