Pillow content and shape

The variety of pillow contents and shapes available should allow people to choose the ideal pillow but a lack of knowledge has existed about what makes a good pillow.

Pillow content

There are a number of different types of pillow content available from retail outlets. These include:

Polyester

Polyester fibres are produced by the melt spinning process, where raw materials are heated and then pressed through spinnerets to produce round, oval or angular profile polyester fibres. There are many different types of polyester fibre available in the marketplace. Pillow manufacturers consider that the best polyester fibres for pillows are those that retain their shape and do not compress. Better quality polyester fibres have spring and are brilliant white in colour. It was previously believed that polyester fibres contained no protein when new and were therefore less likely to attract dust mite however recent research has challenged this assumption.

Feathers and Down

The majority of feathers and down used in Australian pillows are imported from China. Goose and duck down are plucked from live animals while feathers are plucked from dead birds. The feathers are carbonised, using carbon tetrachloride which acts as a solvent, cleaning fluid and insecticide, to remove field and foreign matter. The down comprises only the soft barb of the feather and not the quill, while the feather content comprises both the barb and quill of the feather.

Wool

Crossbred wool which has been carbonised, as described above, to remove up to 90% of the lanolin and any field matter and then carded (combed out) is used to fill wool pillows.

Foam

Foam pillows are either die-cast (pouring liquid urethane into a mould to form the shape) or cut from a larger piece of foam to the shape required. Foam varies markedly in both its density and hardness. The density is governed by the amount of chemicals used and the hardness by the type of chemical used. The heavier the foam the better the quality and durability of the foam. Poor quality foam will feel dry when the finger is run over the surface. Foam is made using a computerised system which places the chemicals required for the specific hardness and density of foam required into a large 'oven' in which the chemical reaction takes place and a block of foam 30 metres long is produced. This block of foam is then cut into pieces two metres long, two metres wide and two metres thick. The 'skin' is removed from the foam and it is then blade cut using a computer controlled blade to any 2-D shape. In the past if 3-D shapes were required the basic 2-D shape was computer cut and then manual cutting was undertaken for the third dimension or pieces of foam were glued in place to achieve the desired shape. More recently robotic technology has allowed pillows of any shape to be cut.

Foam pillows that are die-cast have a 'skin' on them which is said to improve the durability of the pillow while others prefer cut foam pillows which do not have a 'skin' as the 'skin' is said to restrict the yield of the pillow, cause the pillow to bounce and rebound and not allow the pillow to breathe.

Rubber

Rubber pillows are die-cast and in contrast to foam die-cast pillows contain latex, a natural product. Natural latex rubber is highly resistant to compression and this produces rebound.

There are no Australian Standards for pillow manufacture. The British Standards Institute withdrew its standard pertaining to flexible polyurethane foam pillows for domestic use (BS 5340:1976) in March 2003. The standard has not been updated, indicating that there is either no demand within the field for this standard or that changes in the industry mean that the standard is no longer relevant.

The current British Standard for domestic bedding (excluding cellular rubber pillows) states that 'all pillows should be filled with one of the following fillings or a combination of filling (1) and (2):
(1) curled poultry feathers, which shall mean purified poultry feathers, which have been processed by a curling machine and dusted, odourless, free from broken quills, flats and foreign matter
(2) duck or goose feathers or down, or a mixture of these materials
(3) curled hair
(4) curled woollen flock
(5) kapok
(6) rubberized hair
(7) new and unused polyester fibres, made only from virgin fibres in a layered staple fibre batt or continuous filament form and processed in accordance with the producers recommendations' (BS 1877:part 8: 1974).

Pillow shape

Pillow shape varies from the conventional rectangular pillow to contour, wedges, rolls, V-shaped, continental square and peanut shaped pillows.

Contour pillows are usually constructed of a solid piece of foam, with a rounded higher section at the front of the pillow, and are marketed specifically for the use

of supine sleepers where the contour is purported to provide support to the cervical lordosis. Variations to the contour shape using multiple padded pieces to form a pillow are now reaching the marketplace.

There are also bi-compartment and tri-compartment pillows which provide different firmness in each compartment which is alleged to provide better support to the head and neck by providing a contour effect. Compartment pillows follow the same concept as the contour pillow but are usually filled with polyester or feathers and some have provision for the amount of filler to be altered within separate compartments of the pillow. This allows the consumer to vary the height of any section of the pillow to meet their individual needs. Tri-pillows are triangular in shape and usually filled with polyester fibre.

The most common pillows

We randomly surveyed 10% of the population of Port Lincoln, South Australia to find out what type of pillows people were sleeping on. We found that the majority of people were sleeping on a polyester filled regular shaped pillow (43.8%). Similar percentages of people reported using a rubber regular (9%), feather/down regular (7.9%), foam contour (7.5%) or foam regular (7.1%) pillow.

Pillow type	**N**	**%**
Polyester regular	355	43.8
Combination of content and shape (more than one pillow)	96	11.8
Rubber regular	73	9
Feather/down regular	64	7.9
Foam contour	61	7.5
Foam regular	58	7.1
Other combinations	21	2.5
Foam chip regular	20	2.5
Polyester tri-pillow	16	2

Polyester contour	15	1.8
Wool regular	11	1.4
No pillow	10	1.2
No response	12	1.5
Total	812	100

Table 1. Frequency of reported pillow use.