



Options for Allergy-Proof Coverings

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There are four basic types of materials commonly used to manufacture allergen-barrier encasings: vinyl, laminates, woven microfiber fabrics, and non-woven microfiber fabrics. Within each material type there are further differences in fabric quality and sewing construction.

Vinyl encasings are inexpensive and effectively block allergen escape. But because they are stiff and noisy, and do not allow air or water vapor passage, they are uncomfortable to sleep on. They are suitable, however, for encasing a box spring, as a person would not sleep directly on the plastic. The vinyl should be of sufficient thickness as to not tear easily.

Laminate encasings are made by fusing a plastic-type membrane, usually polyurethane, to the bottom surface of a fabric. The membrane acts as an effective allergen barrier. Although less uncomfortable than vinyl, they are generally somewhat stiff, have only very minimal water vapor permeability, and are not air permeable. An additional problem with laminate encasings is that with washing and drying, the urethane membrane may separate from the fabric onto which it had been coated, making the encasing unusable.

Woven microfiber fabric encasings are woven from special yarns, each of which is made up of 100-200 ultra-thin filaments. Because the tightly woven microfiber fabric itself acts as a filter that prevents allergen escape, no plastic membrane is needed, and air and water vapor can pass freely through the fabric, making it very comfortable for use. Unfortunately for the consumer, microfiber fabric encasings vary considerably in the tightness of their weave and therefore in their effectiveness as allergen barriers. Some woven microfiber encasings block only certain allergens, while higher quality woven microfiber encasings prevent the passage of all types of allergens. A high quality woven microfiber encasing is the state of the art for comfort and allergen blockage.

Non-woven microfiber fabric encasings are not woven on a loom, but rather are manufactured by fusing a mass of randomly crisscrossing short filaments to each other with heat, glue, and pressure, resulting in an embossed pattern on their surface. Although inexpensive, these fabrics are deep enough to allow dust mite growth and high levels of allergen accumulation on their surface, but are not washable. These facts suggest that non-woven microfibers do not succeed in reducing allergen exposure, and should not be used for allergen avoidance.

Note that encasings of any fabric type can differ in the quality of their sewing construction. Desirable

features include bound seams, no gap at the edges of the zipper, a barrier fabric flap beneath the zipper to prevent the escape of allergen through the zipper webbing, and an extra-long zipper for easier placement of the encasing on a mattress.