WASHING WONDERS

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The science behind a good wash

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causing them to gather into tiny balls known as pilling.

Over time, this can weaken the fabric and affect its original appearance.

This does not affect every kind of clothing the same way. Cotton is absorbent and usually tolerates everyday washing, but a dyed T-shirt can fade and certain cotton garments can shrink. Denim is sturdy, although repeated rubbing may wear down its surface colour. A polyester sports jersey may hold on to body oils and odours, yet aggressive heat is not necessarily the answer.

Wool is particularly sensitive to the wrong kind of movement. Each fibre has tiny scales on its surface. In water, rubbing can make those scales catch on neighbouring fibres. The fibres become more tightly packed, and the garment shrinks. This process, known as felting, is one possible explanation for what happened to Akter's sweater, although her wash settings are unknown.

DIFFERENT MODES FOR DIFFERENT FABRICS

A 2008 study in Ultrasonics Sonochemistry compared different ways of agitating wool during laundering. Researchers Christopher Hurren, Peter Cookson and Xungai Wang found that experimental ultrasonic washing caused less shifting of fibres and less felting than hand washing, while removing more of the tested stains. The experiment did not test ordinary home washing machines, but it showed why the kind of movement matters.

Some woollen garments are specially treated to resist shrinkage and can be machine washed if their care labels permit it. Silk shirts and delicate blouses may also need gentler handling, depending on their weave, dyes and finishing. The label matters as much as the fibre name.

Modern machines offer programmes to manage these differences. Cotton, synthetics, wool and delicate cycles may use different temperatures, drum movements, washing times and spin speeds. A quick wash is generally meant for a smaller, lightly soiled load. Load sensing can help some machines adjust the water level, but it does not mean they can automatically recognise every fabric.

PROPER PRACTICES MATTER

Even simple choices make a difference. "If we put too many clothes into a machine, they become crowded, and water and detergent cannot move properly between them," Bhuiyan says. "If we use too much detergent, more rinsing may be needed. Otherwise, detergent can remain in the clothes. The aim is to get them clean without damaging their properties."

A clean garment is not necessarily a well-washed one, especially if it comes out faded, stretched or smaller than before. Akter's sweater is a reminder that what happens inside the drum matters just as much as what comes out of it. After all, a good wash should take the dirt out of clothes, not the life out of them.



ILLUSTRATION: MAGNIFIC

Choose the right detergent for your wardrobe

A quick guide for fabric care & detergent selection

Fabric Category	Detergent Type	Market Brand Examples
Heavy Duty & Sturdy (Cotton, Denim, Canvas)	High-Active Powder Detergent	Surf Excel, Tide, Jet, ACI Supreme
Delicates & Luxury (Silk, Wool, Chiffon)	Fabric Shampoo / Mild Liquid	Rin Liquid, Jet Liquid, Orix Fabric Shampoo
Brights & Whites (Vibrant & White Clothes)	Color Guard / Brightening Detergent	Rin, Wheel, Orix Crystal Wash, Chaka Super White, Redy
Everyday & Synthetics (Nylon, Polyester, Activewear)	Multi-Purpose General Detergent	Wheel, ACI Smart, Redy, Rin Washing Liquid

Source: Detergent Dillemas?, The Daily Star, 2024. Unilever Bangladesh Limited, Square Toiletries Limited. Remark LLC/ Herlan, ACI Limited

