SAVEHRA RESEARCH · YOUR 8 HOURS OF SKINCARE

What your pillowcase does to your skin.

The science behind breakouts, sleep lines, dryness and irritation, and how the fabric against your face shapes the skin you wake up with.

BREAKOUTS | SLEEP LINES | HYDRATION | SENSITIVITY



Your skincare routine ends. Your pillowcase takes over.



You cleanse, tone and moisturise, then press your face into fabric for eight hours. Here's what people notice most when they wake up:

Breakouts
New spots on the side you sleep on

Sleep lines
Creases pressed into your cheek

Dryness
Tight, thirsty skin in the morning

Irritation
Redness, itch or prickly fabric

Overheating
Sweaty, flushed, sticky skin

What the science says

70%

of the night your face is **pressed into the pillow** (65% on your side, 5% on your stomach)

ANSON, KANE & LAMBROS · AESTHETIC SURGERY JOURNAL, 2016

2×

more rubbing on your skin when fabric turns damp

GERHARDT ET AL. · J R SOC INTERFACE, 2008

0

of the tested sweat bacteria grew on viscose, **modal's fiber family**. Cotton grew an acne-linked type

GHENT UNIVERSITY · APPL ENVIRON MICROBIOL, 2014

4 wins

Wood-based fiber beat cotton for **softness, temperature, moisture control** and wrinkle resistance

LOVE & NEDOROST · DERMATITIS, 2009

The pattern?

Friction, moisture and bacteria. The fabric against your face controls all three. A smooth, absorbent, fresh surface gives your skin a better night.

01 · Breakouts

Fewer pore-clogging surprises.

Dermatologists recognise a type of acne called **acne mechanica**, triggered by friction and pressure on the skin. Add the oil, sweat, skin cells and hair products that build up on a pillowcase, and your face gets a nightly dose of all of it.

FABRIC	SWEAT BACTERIA THAT GREW ON IT (GHENT UNIVERSITY LAB TEST)
Viscose MODAL'S FIBER FAMILY	**Nothing.** None of the sweat bacteria tested grew.
Cotton	3 types, including *Propionibacterium*, the bacteria linked to acne
Polyester	The most growth of 3 types, including *Propionibacterium*
Wool	Almost every type tested

Source: Callewaert et al., Appl Environ Microbiol 2014; 80(21):6611–6619. *Propionibacterium acnes* is now also called *Cutibacterium acnes*.



Why wood-based fibers stay fresher

Bacteria need moisture on the surface to grow. Wood-based fibers like modal **pull moisture inside the fiber**, leaving less for bacteria. Innsbruck Medical University and Germany's Hohenstein Institute both measured lower bacterial growth on wood-based fibers than on polyester.

Less rubbing, too

Modal's smooth, even fibers glide over skin instead of scuffing it, so there's less of the friction that triggers acne mechanica.

02 · Sleep lines

Your face has a night shift.

Plastic surgeons writing in *Aesthetic Surgery Journal* found that "sleep lines" are different from expression lines. They're caused by your face being **pressed, pulled and dragged** against the pillow, not by your muscles.

Your face spends 70% of the night against the pillow

Share of sleep time spent in each position, averaged across studies



FACE AGAINST THE PILLOW 70%

Source: Anson G, Kane MAC, Lambros V. Sleep wrinkles: facial aging and facial distortion during sleep. Aesthetic Surgery Journal, 2016.



Every turn drags your skin

You change position around **20 times a night**, and each move tugs your cheek across the fabric. On a rough surface, skin catches and folds instead of sliding.

Damp makes it worse

Researchers in Switzerland found damp fabric causes **more than twice the friction** of dry fabric on skin. Modal soaks up to 50% more moisture than cotton, helping keep that surface dry and smooth so your skin glides.

Fabric that helps your skin stay balanced.

A study published in the **Journal of the American Academy of Dermatology** tested how pajama fabrics affect skin overnight. It found that **how well a fabric absorbs moisture was linked to how hydrated the skin stayed**, and to how much water the skin lost.

THE RESEARCHERS CONCLUDED

A fabric's ability to absorb moisture "may be a key factor" in skin hydration.

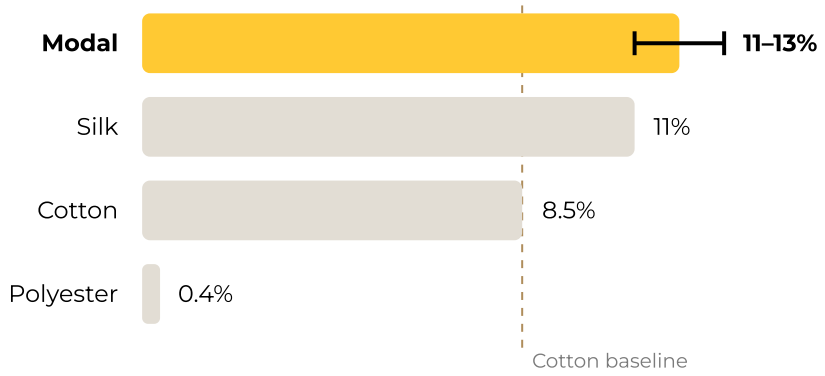
Yao et al., J Am Acad Dermatol 2011; 64(3):e29–36

What else they found

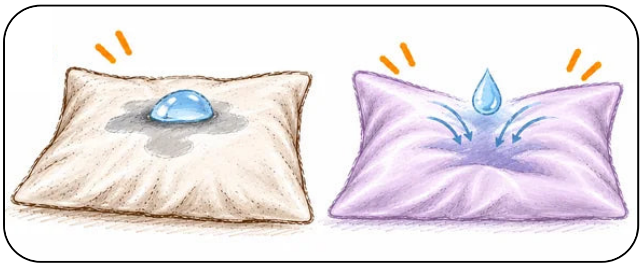
People wearing **absorbent fabric** had slightly lower skin oil (sebum) than those in water-repelling polyester, and people in water-repelling fabrics felt warmer overnight.

Modal is the most absorbent of the three

How much moisture each fiber soaks up from the air, as % of its own weight



Sources: ASTM D1909-13; Morton & Hearle 2008; Lenzinger Berichte 89 (2011); polyester approximate textbook value.

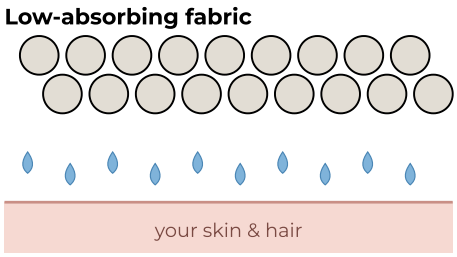


Overnight moisture that's drawn **into** the fiber isn't left sitting on your skin, so you wake up comfortable, not clammy.

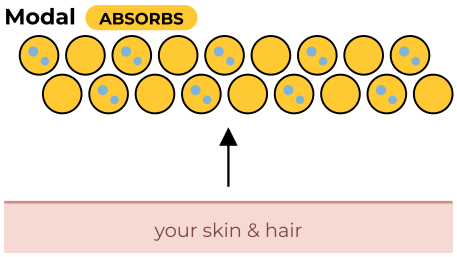
Good to know · absorption

Why soaking up more is a good thing.

"Absorbent" doesn't mean a fabric dries you out. Modal soaks up the **extra** moisture (sweat vapour and the warm, humid air trapped between you and your pillow) so it isn't left sitting on your skin and hair.



Moisture gets trapped against you
Damp surface · more friction · more bacteria



Moisture is drawn into the fiber
Dry surface · smooth glide · fresher

2×

Drier surface, less friction. Damp fabric causes more than twice the rubbing of dry fabric.

GERHARDT ET AL., 2008

0

Less water for bacteria. None of the tested sweat bacteria grew on viscose, modal's fiber family.

CALLEWAERT ET AL., 2014

14 min

A less humid bed. The most moisture-buffering sleepwear helped people fall asleep up to 14 minutes faster.

CHOW ET AL., 2019

Not soggy skin

Over-moist skin softens and grips fabric more, so it creases and rubs more easily. A dry surface lets your cheek glide.

Won't it dry me out?

No. Absorbency works like a **buffer**. Moisture regain is a fiber's balance with the air around it: modal takes in water vapour when the air next to you gets humid and releases it again as the air dries. It evens out the air around you; it doesn't pull water out of you.

Gentle enough for sensitive skin.

Dermatologists at University Hospitals Case Medical Center ran a randomised crossover trial. Thirty people, including people with eczema-prone skin, slept in **wood-based lyocell** (modal's sister fiber) and in cotton, one week each.

Wood-based fiber was preferred over cotton for:

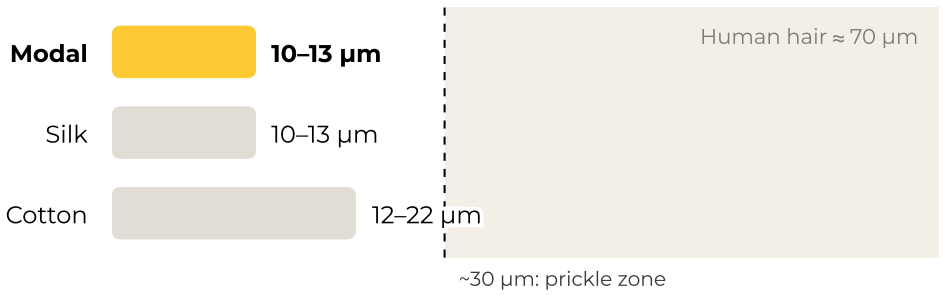
- Softness
- Temperature control
- Moisture control
- Wrinkle resistance

The authors concluded the wood-based fiber was **"superior to cotton in many performance characteristics"** and a beneficial fabric to improve comfort.

Love WE, Nedorost ST. Fabric preferences of atopic dermatitis patients. Dermatitis 2009; 20(1):29–33.

Modal fibers are ultra-fine

Fiber thickness in microns (µm). Coarse fibers over ~30 µm are linked to the "prickle" feeling on skin

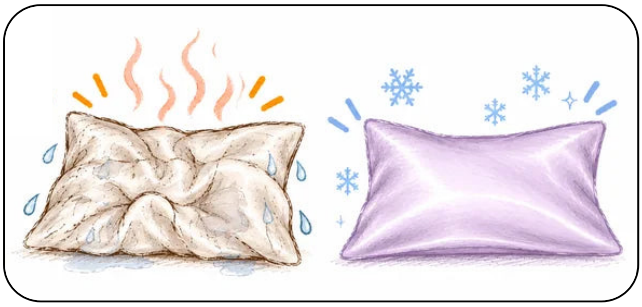


Sources: Morton & Hearle 2008; Dolling, Marland, Naylor & Phillips 1992 (fibres over 30 µm and prickle).

05 · Cool, calm skin

Keep your cool all night.

Heat is one of the biggest disruptors of good sleep: with bedding on, heat exposure increases waking and cuts deep and dream sleep (Okamoto-Mizuno & Mizuno, 2012). Hot, sweaty skin is also uncomfortable skin.



TRAPPED HEAT · COOL, BREATHABLE COMFORT

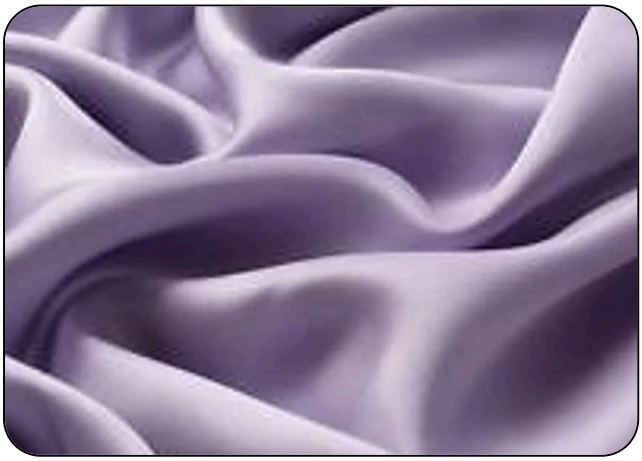
Breathes better than cotton

Scientists knitted modal and cotton the same way at four tightness levels. **Modal let more air through every time.** Another study found modal pairs high airflow with low heat trapping.

Cool to the touch

Modal's smooth, fine surface feels cool the moment your cheek touches it, and it soaks up moisture so heat and sweat don't build up against your face.

14 min faster to fall asleep in **moisture-absorbing sleepwear** than in cotton, in a University of Sydney sleep-lab study (Chow et al., 2019). Better moisture control means a more comfortable, restful night.



IN ONE LINE

Smooth, cool to the touch and easy to live with.

06 · Your overnight skin routine

Six habits for better skin mornings.

Your skincare doesn't stop when you close your eyes. These small changes protect your skin all night.

01

Wash it weekly

Oil, sweat, skin cells and products build up on your pillowcase. Modal is machine washable, so keeping it fresh is easy.

02

Let skincare sink in

Give your serums and moisturiser a few minutes to absorb before your face meets the pillow.

03

Keep hair products off your face

Tie hair back loosely so oils and styling products don't sit against your skin all night.

04

Sleep on smooth

A smooth modal pillowcase lets your cheek glide when you turn, instead of creasing and dragging.

05

Keep it cool

A cooler room and breathable bedding help skin stay calm and help you sleep more deeply.

06

Flip and switch

Flip your pillow mid-week, and keep a second pillowcase ready so there's always a fresh one.



THE VERDICT

The Skin Scorecard.

How each pillowcase fabric treats your skin, side by side.

	MODAL	SILK	COTTON
Smooth on skin	**Excellent** Fine, even fibers	**Excellent**	**Fair** Short, fuzzy fibers
Stays fresh	**Excellent** Fiber family grew no tested bacteria	**Good**	**Good** Grew acne-linked bacteria
Moisture balance	**Excellent** 11–13% absorbency	**Excellent** 11%	**Good** 8.5%
Comfort for sensitive skin	**Excellent** Wood-based fiber preferred over cotton	**Good**	**Good**
Cool & breathable	**Excellent** Beat cotton on airflow	**Good**	**Good**
Easy care	**Excellent** Machine washable	**Fair** Hand wash or dry clean	**Excellent**



The bottom line

Your skin meets your pillowcase for eight hours a night. Modal gives it a surface that's **smooth, absorbent, breathable and fresh**, and easy to wash every week.

Better skin starts the night before.

Smooth skin. Fresh mornings. Every night.



The Savehra modal pillowcase: smooth, cool and absorbent, designed for the 8 hours your skincare routine can't reach.

Shop the Pillowcase →

savehra.com

Sources

Every figure in this report comes from the peer-reviewed studies, standards and research listed below.

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