

'It's such positive music that it feels like a celebration when you're performing'

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Musicians might not realise how important the quality and condition of their bow hair can be.
Canisa Sie gives a guide to caring for this vital part of a string player's arsenal



Bow hair is one of the most sensitive – and often misunderstood – materials in a string player's world. While technique, instrument and bow quality rightly take centre stage, the humble horsehair quietly plays a vital role. As the final point of contact with the string, it helps shape every nuance of sound – and is surprisingly responsive to its environment.

A good rehair requires both high-quality bow hair and the expertise of a skilled bow maker or luthier. Such professionals know the quality criteria of hair, and how climate and the player's environment influence the bow's playability and sound. By understanding what key factors affect the performance of bow hair – and how to care for it – many common problems encountered by rehairs and players can be prevented.

Bow hair is a natural, organic material and, like wood, is highly reactive to its surroundings. It is hygroscopic, meaning it constantly absorbs and releases moisture. It stretches and contracts –

sometimes within a single rehearsal! When it does, the bow may respond in ways that puzzle even the most experienced player.

In extreme high humidity, bow hair stretches. Even when fully tightened, it can feel soft and unfocused against the string, lacking the tension needed for control. Many years ago, there was a soloist from Germany preparing for concerts in Hong Kong during a particularly wet summer week. The humidity hovered around 90 per cent and his bow hair had stretched by nearly two centimetres. It was unusable! For

HAIR QUALITY
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RESISTANCE

help, he came to my father, a professional luthier, who did an urgent rehair for him so he could continue rehearsing.

Conversely, very dry conditions – such as heated interiors in winter, or sudden exposure to strong air conditioning – cause the hair to contract. When humidity drops sharply, the hair loses internal moisture and pulls tight. In extreme cases, the frog may jam against the stick, creating excessive tension and distorting the bow's natural camber.

Every year I receive phone calls from rehairs reporting that musicians say their bow hair is 'snapping like dry twigs'. These calls mostly come during the winter months, especially when rehearsals take place in overheated conservatoire rooms or halls with strong radiators. Humidity in these spaces can fall to as low as 20 per cent. If the player happens to be seated directly under a radiator vent, the effect can be even more severe. In such dry air the hair becomes brittle, owing to a loss of internal moisture, and is highly prone to breakage.

Bow hair is rare: only around 5 per cent of harvested horsehair meets the standards required for professional-level playing. For some premium-quality hair, 99 per cent is discarded, leaving just 1 per cent as the crème de la crème for the most demanding musicians. High-quality bow hair is characterised by strong, straight shafts with uniform thickness, uniform colour, good elasticity and good resistance; clean and without blemishes. These features allow for consistent tension, reliable grip and excellent response across the entire length of the bow. In contrast, common defects – such

as curled or twisted hairs, weak or brittle strands, split ends, uneven diameter and knots – can all compromise the playability, sound quality and longevity of the hair.

Thus, hair quality plays a central role in how a bow performs. For makers, choosing the right bow hair is a craft in itself. Hair quality affects everything from grip to tonal clarity – and especially resistance, the essential friction that allows the bow to 'communicate' properly on the string. A lack of resistance often stems from raw hair that is too thin, chemically treated, or sourced from unhealthy horses exposed to poor feed or environmental stress. Defects such as uneven diameter, curled shafts or hidden knots are difficult to detect, and only experienced eyes and hands can reliably judge quality by feel and appearance.

With high-quality hair in hand, experts also take climate into account when rehairs a bow. The length of hair used isn't arbitrary; it's adjusted based on expected seasonal or regional conditions. A bow prepared for the damp climate of the UK might be haired slightly shorter to accommodate for swelling. One for a player in Madrid, where summers are hot and dry, may require slightly longer hair to allow for future shrinkage.

Because bow hair is a natural material, no two batches are ever identical –

even from the same source. That's why working with a reputable supplier is essential: trusted dealers monitor each stage of processing at the source, ensuring consistency, proper sorting and quality control for luthiers and bow makers. The difference between a bow that responds beautifully and one that slips and scratches often begins long before it touches the string.

I am frequently asked about how best to store bow hair, and how long it can be kept. The answer depends on usage and environment, but one piece of advice is consistent: avoid purchasing large-quantity units (e.g. 0.5kg or 1kg hanks). While it may seem economical, there are two main concerns. First, large hanks make it easier for unreliable suppliers to hide lower-quality hair in the middle. Second, hair exposed to fluctuating humidity and temperature over time can deteriorate.

A 250g hank is usually the most practical – manageable and easier to store properly. Unopened hanks should be kept in a clean, stable environment with moderate humidity. Workshops with low usage rates may benefit from individually packed single-bow hanks, which reduce risk of contamination or degradation.

With good storage, unused bow hair can last up to three years or more. Just ensure it's protected from pests like

moths or mites, and not left in direct sunlight or overly dry conditions.

SIMPLE CLIMATE CONTROL FOR BOWS AND HAIR

Fortunately, bow hair isn't fragile; it just needs the right care. Even small efforts can make a big difference.

DIY Humidifier

- Lightly dampen a clean sponge or paper towel
- Place it in a ventilated plastic container or zip-lock bag with small holes
- Keep it inside your instrument case or hair storage drawer (avoid direct contact with the hair)
- Refresh regularly as needed

DIY Desiccator

- Use silica gel packets, or dried rice or salt in a breathable fabric pouch
- Place it in your bow case or hair drawer to absorb excess moisture
- Remember to replace or recharge the contents periodically

Bow hair may seem humble, but when treated with just a little care and respect, it offers unmatched sensitivity and tonal richness: qualities that no artificial materials can replicate. ●

GOLDEN RULES FOR BOW HAIR CARE

- Avoid prolonged exposure to high temperatures or direct sunlight
- Keep bows away from heaters and air-conditioner vents
- Humidity below 45 per cent: use a humidifier
- Humidity above 70 per cent: use a desiccant
- Store bow hair in a cool, stable environment
- Open only small quantities at a time – 250g rather than 0.5kg or 1kg hanks

