When to Replace Your Bicycle Helmet Jay Polokoff, MD and Richard Josephson MS, MD

Most cyclists are aware of the need to replace a helmet after a major crash. What about minor damage to a helmet not involved in a crash? It's difficult to quantify other reasons such as foam or plastic degradation or corrosion from salt or sweat that may necessitate replacement.

Cycling helmets are single use safety devices; replace the helmet after ANY head impact crash or fall. The foam or plastic underneath the shell may have crumpled to absorb the force of the impact. Sometimes the helmet shows no outward sign of damage after a crash, and the rider may not show any symptoms of a head injury. Nevertheless, the recommendations are still to replace the helmet.

Helmets, like everything else, deteriorate over time. Any physical damage to the foam or plastic cushion underneath the shell may affect the ability to reliably protect the wearer. The shell maintains the structural integrity of the foam or plastic underneath. It is vulnerable to damage from ultraviolet light. It can become brittle when exposed to sunlight regularly. Regularly inspect the helmet for damage such as hairline cracks.

Chin straps, as well as the straps and pads within the helmet, can wear out due to sweat and general grunginess. The Consumer Product Safety Commission (CPSC) performs a Retention Strength Test (basically knocking a helmet off a dummy head repeatedly). Worn and older helmets, or helmets made with inferior materials will not pass this test. If the strap cannot be tightened due to broken slide adjusters or the blade has broken off the buckle, it is time to trash the helmet. If the ratchet dial or other devices used to fit the helmet to the back of the head do not work well, or there are other issues that prevent keeping the helmet providing a proper fit and staying in place, it is time to trash the helmet.

Disagreement exists amongst the most trusted helmet safety resources in terms of when to change a helmet without visible damage. The CPSC recommends replacing a bicycle helmet every 5-10 years. The Snell Memorial Foundation that certifies helmets for safety recommends every 5 years. Some helmet manufacturers recommend every 3 years. The reality is that absence of proof is not proof of absence. Given the wide variation in helmet use (a few or a few hundred days each year, storage conditions (heat, moisture), etc., the various organizations have made what they believe are reasonable, albeit conservative recommendations. Since we each have only one head and one brain, it makes sense to get a new helmet at least every 5 years.

Resources for additional information:

CPSC Snell

Key points regarding helmet replacement:

- 1) Replacement every 5 years is reasonable.
- 2) Replacement after any significant accident.
- 3) Inspect the helmet shell, straps, and fasteners regularly, and replace the helmet if they are worn or do not function perfectly.