Why do snakes shed their skin?

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Ever felt like you wanted to crawl out of your skin? Snakes do and they can as well! But why do snakes shed their skin? In this article we'll look at the how and the why of snake shedding.
So, what is it? When a snake sheds its skin it's a process known as "ecdysis" taken from the Greek ekdusis, from ekduein 'put off', from ek- 'out, off' + duein 'put'. Snakes leave behind a dull and papery slough of skin that has the intricate and unique pattern of scales but not the colouration of the animal.
Shedding skin is common in the natural world, everything sheds its skin, even humans, losing small pieces in tiny flakes, but snakes produce an entire new layer of skin, losing the old skin in a single piece.

But why do they shed their skin? Snakes have two layers of skin – the dermis and the epidermis. The dermis is the layer of skin that contains the colours and intricate patterns of the snake and the epidermis is the semi-transparent layer of keratin toughened scales. The external keratinous layer forms a single piece which serves as a "sheath" for the animals more delicate dermis. With this toughened epidermal sheath, there is very little flexibility, and it does not grow as the snake grows. This is the main reason for a snake shedding its skin (particularly when they are younger).

When the snake is hatched (or born, depending on the species) their first shed happens within a few days. When a snake is ready to shed it starts to develop a new epidermis. This keratinous sheath develops underneath the old one releasing a waxy secretion that is absorbed by the old skin making it more pliable and easier to remove. This part of the shed cycle is referred to as "going into blue" as the snakes' spectacles (the transparent scales over the eye) goes a cloudy blue colour. Once they drop out of blue (when the waxy secretion has been absorbed) the snake begins rubbing its head and snout on rough surfaces to split the old epidermis and allow the snake to slither out. A fresh shed can in some cases be 20% longer than the actual snake itself as the old skin is very stretchy before it

dries out and becomes more brittle and paper like. Snake sheds are always discarded by the animal, unlike some species of geckos and other lizards that eat their shed skin to reabsorb lost nutrients and trace minerals.

The shed cycle itself is a traumatic time for a snake, changing your entire skin is not a fast process and due to the nature of the animal, it can leave them vulnerable to attack from predators. The snakes' vision becomes impaired due to the secretions from the new epidermis and their old skin is tight and restricting. During this time a snake will instinctively hide itself away, generally in an area of higher humidity to help remove the old skin.

Once a snake reaches adult size the sheds become less frequent, tying into significant life events for the animal. Brumating animals will shed once they have fully awoken, reproductive animals will shed right before laying eggs or giving live birth and they may shed again after that period. Snakes will also shed to rid themselves of parasites, infections and to help heal any damage to the dermis or epidermis they may receive. Wear and tear on the keratinous epidermis will also prompt a shed cycle to replace their protective layer of scales.

So why do snakes shed their skin? Snakes produce one of the most instantly recognizable and fascinating sheds of any reptile on the planet and they use this process to grow, repair themselves and maintain their health and condition.

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