

## Eczema and swimming factsheet

Swimming is a vitally important life skill and an enjoyable family activity. No child with eczema should be excluded from learning to swim. In addition to being a very important skill to master, swimming is a reasonably skin-friendly form of exercise as it doesn't involve getting too hot and sweaty (and therefore itchy).

All swimming pools need to maintain pool water in a safe and hygienic state, balanced within an ideal pH range. This is achieved in the UK with the addition of chlorine, a powerful disinfectant, and various other chemicals (see swimming pool facts below). The problem is that some children and adults are irritated by swimming pool water (depending on the mix of chemicals used by the individual pool); however, not everyone with eczema will necessarily experience the same degree of irritation, as eczema is a very individual condition.

### How does swimming pool water affect eczema?

Many different environmental irritants can trigger eczema, and swimming pool water is no exception.

Some people with eczema may experience irritation or drying of their skin; others experience no negative effects (especially if they wash well with emollients and apply moisturisers before and after swimming).

Dryness of the skin after swimming is likely to occur if the pH of the pool water is raised (pH above neutral can cause dry skin, as can calcium build-up). Chlorine can also cause dryness, but since it is a bleach, and recent research in eczema has recommended diluted bleach as a way of reducing bacteria on eczematous skin, it is not all bad!

Some people with eczema may experience irritant dermatitis. This can be due to the skin reacting to chlorine or to any of the other chemicals added to sanitise or alter the chemical balance of the swimming pool water. If this happens to you, it may be worth changing where you swim as different pools may use different chemical treatment systems.

Practical suggestions for avoiding swimming-related skin problems:

- Avoid swimming if the eczema is flaring badly or infected.
- If swimming *indoors*, apply your usual emollient cream or, better still, an emollient ointment, before entering the pool (i.e. after using the toilet and showering). It is a good idea to put on more cream than you usually would, so that it acts as a good barrier to the water.
- If swimming *outdoors*, remember that the sun reflects on water and therefore waterproof sun protection will be required. First, go to the toilet and shower; then apply emollients about half an hour before applying sunscreen – this will prevent the sunscreen becoming diluted by the emollient and ensure that the sunscreen keeps its reflective properties and protects your skin. Try not to overdo your emollient when outdoors as it may produce a 'frying' effect in the sun if it hasn't been properly absorbed. (NB Most people with eczema do best with sunscreens that contain zinc oxide or titanium dioxide, which sit on the skin rather than being absorbed.)

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- As soon as possible after swimming, shower off using your usual emollient wash/oil/gel. Then apply more leave-on cream than usual. (NB If the pool showers use chlorinated pool water, it is best to go home and take a shower/bath immediately you get there.)
- Children who are self-conscious about their eczema may prefer to wear UV-protection swim suits/clothing. These may do the trick in covering elbows and the backs of knees; however, since they're not just designed for people with eczema, you do have to look hard to find ones with longer sleeves/trousers.
- If swimming pool water is an irritant, consider going to another swimming pool where different chemicals may be used. Alternatively, try to find a salt-water pool, or swim in fresh or sea water (especially in the summer months).
- Try to find out when the chlorine is added to the swimming pool and avoid swimming immediately afterwards – the higher the chlorine level, the greater the risk of irritation.
- When trying out a new pool, spend just a short time in the water and see how it goes.
- Remember that even when you get out of the water, your skin is still exposed to chlorinated fumes around the poolside, so don't hang about unnecessarily.

### Facts about swimming pool water

Maintaining the correct chemistry of swimming pool water is very important for health and safety, and a variety of different chemicals are added to achieve this. There are two aspects to maintaining balanced, safe, disinfected water:

### Water sanitisation

Bacteria multiply rapidly in untreated water. Various methods are used for sanitisation:

- *Chlorine* is the most widely used disinfectant for swimming pool water in the UK. It is important to maintain the correct 'free chlorine residual' at all times. If you can smell the chlorine, it means that there is not enough 'free chlorine' in the water – the distinctive smell comes from chlorine that has combined with other compounds that were not washed off people's bodies before swimming, hence the importance of using toilet and shower facilities before you swim. In the UK, people often skip the pre-swim shower so pools tend to be more heavily chlorinated than in countries where there is more of a culture of cleanliness! Chlorine stabilisers are used in outdoor pools to prevent loss of chlorine due to sunlight.
- *Salt-water chlorination* has been used for many years in Europe, Australia and South Africa as it removes the need to add chlorine separately to a pool. It is a less common way of sanitising pools in the UK. Salt-water chlorination works by having an electrolytic cell break down the salt (sodium chloride) dissolved in the water in order to produce chlorine, which acts as the sanitiser. Salt-water chlorination at swimming pool water strength does not bleach and, according to the manufacturers, is kinder to the skin and eyes.
- *Bromine* is used in some pools – mainly domestic and hydrotherapy pools – as an alternative to chlorine.
- *PHMB* is a disinfectant used as a three-part system for domestic pools.
- *Algaecides* are added to kill and prevent the growth of algae.
- *Filter aids/flocculants/clarifiers* help to remove foreign debris/material.

### Pool water Treatment Advisory Group (PWTAG)

The PWTAG Code of Practice provides pool operators with a structured plan for the technical operation of their pool. The Code ensures that the pool meets quality standards that provide a healthy experience for swimmers. For this reason all UK pools are encouraged to follow it. Following the Code gives an assurance to operators and the public that the pool meets essential healthy pool operational standards. The Code is designed, among other things, to meet the health challenge of one of the greatest threats that the sector has to deal with – the chlorine-resistant pathogen, *Cryptosporidium*.

Check with your local pool that they follow the PWTAG code and meet essential health pool operating standards.

For more information on swimming pool water, please visit [www.pwtag.org](http://www.pwtag.org)

### Water balance

pH is the most important factor in swimming pool water chemistry since it affects chlorine efficacy as well as overall balance in the water. pH is a logarithmic scale for measuring the water's acidity or basicity – the ideal pH value to be comfortable for eyes and to prevent corrosive or scale-forming conditions is at a slightly basic value in the range of pH 7.2-7.4. Other factors that influence water balance include total alkalinity (the amount of base in the form of bicarbonates, carbonates and hydroxides), calcium hardness and water temperature.

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