



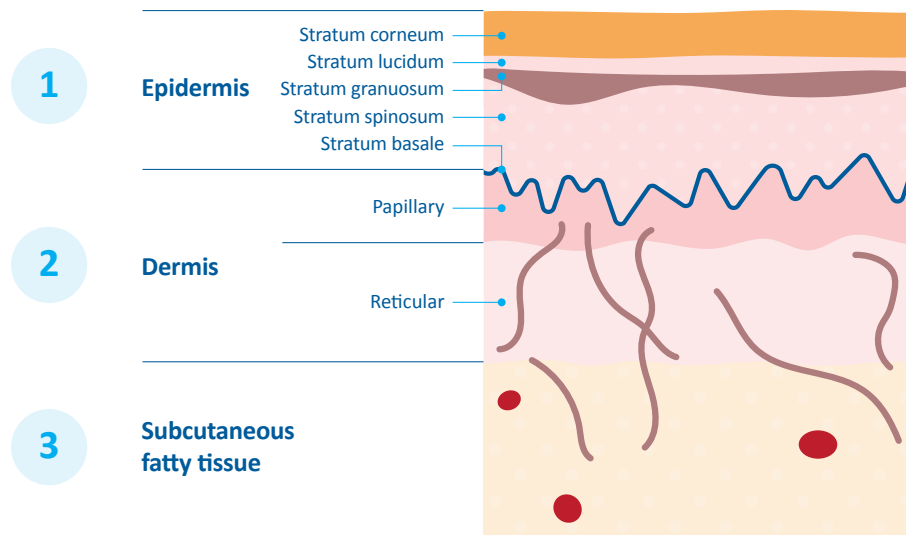
Information for healthcare professionals



Understanding the unique properties of baby and infant skin

The skin is the body's largest organ and has three primary functions: protection, regulation and sensation.

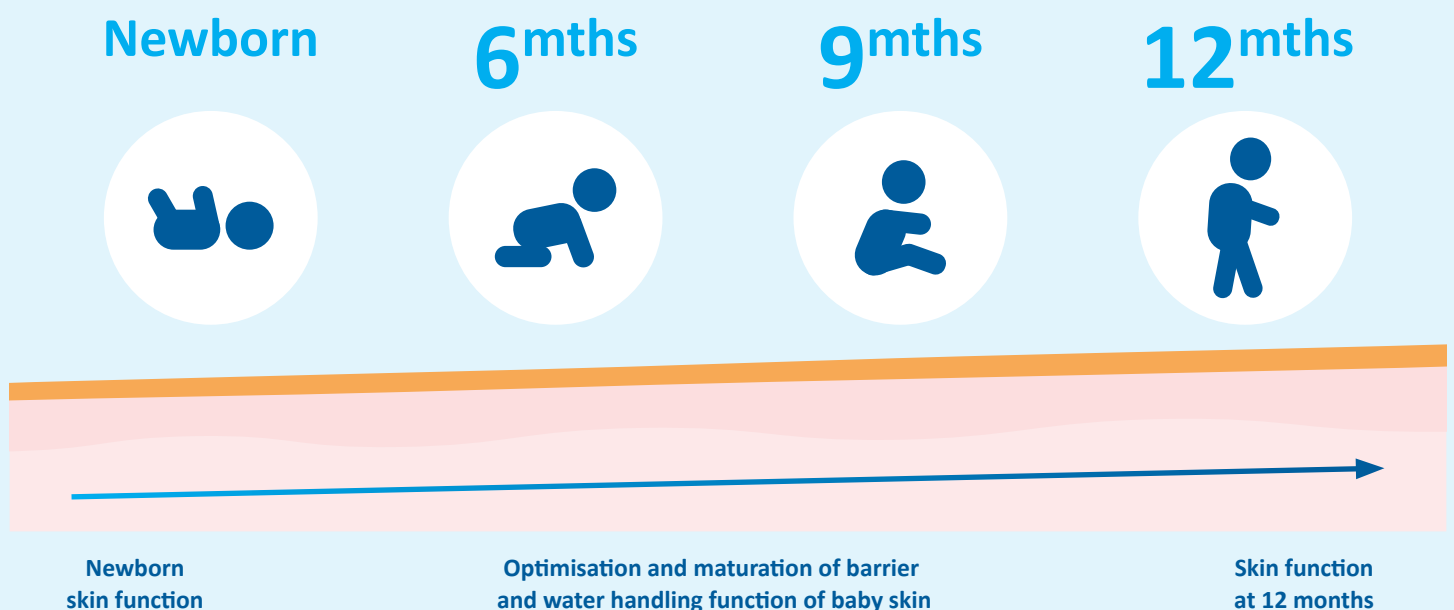
It consists of three main layers:



The epidermis is further divided into the stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum, and stratum basale. The stratum corneum is the outermost layer and acts as a protective barrier against microorganisms, chemicals and allergens. Significant clinical evidence stresses the importance of the stratum corneum and its barrier function for babies, especially neonates.¹

Development of baby skin during the first year¹

The properties that make baby skin unique persist through the first 12 months.



Throughout the first 12 months of a baby's life skin continues to develop. The barrier function of the epidermis and stratum corneum gradually increases.

Baby skin is structurally unique

The epidermis in babies is 20% thinner and the stratum corneum is 30% thinner,³ which increases susceptibility to permeability and dryness.⁴ From birth, barrier function and the water handling properties of the stratum corneum are continually optimising and the properties that make infant skin unique are thought to persist at least through the first 12 months of life.¹

Baby skin is also less firmly attached than mature skin and has a higher propensity to increased trans-epidermal water loss [TEWL] and reduced stratum corneum hydration, reflecting a less effective skin barrier function.^{6,7} Also because the ratio between baby body surface to baby body weight is higher,³ topical agents are more readily absorbed and can therefore have a more pronounced effect on baby skin.⁶ All these factors combine to make baby and infant skin a less effective barrier and as a result it is far more delicate and vulnerable, requiring special care and protection. It is therefore important to select the correct types of product to use on baby skin.



Preventing nappy rash

- Nappy rash is an irritant contact dermatitis characterised by a red, sore rash in the nappy area.
- Very common condition, with up to 50% of children affected at least once.⁸
- No recognised scale exists to assess severity; in its mildest form, there is a reddening of the skin in the nappy area, which, if left untreated, can quickly progress to painful exudative or ulcerated lesions.
- No single irritant that causes nappy rash, prolonged contact of the skin with urine and faeces in the nappy is considered the most important factor.⁹
- Therefore crucial to ensure nappies are changed regularly and the area is thoroughly cleaned.



Preserving the barrier function of baby skin

- While there is limited, high-level, long-term clinical evidence available on the most effective and safe cleansing of healthy, full-term newborns and infants,¹⁰ it is recommended that any topical agents used for bathing and cleansing, should not adversely alter or affect the skin barrier.⁶
- When considering products for use on neonate or infant skin, the aim should be to use those which help preserve the skin barrier function of the stratum corneum.⁶ Ideally they should be pH neutral (pH 5.5 - 7), contain only a mild preservative, alcohol-free, fragrance-free.⁹



Help Prevent Eczema

- The need to optimise baby skin's barrier function is necessary, in part to help prevent eczema.⁴
- While genetic predisposition plays a part, environmental factors such as the use of topically applied natural or commercial skin care products are also linked to development of the condition.^{11,12,13}

Introducing the world's purest baby wipes



WaterWipes have been specifically developed to be as mild and pure as cotton wool and water, to help maintain the important skin barrier function of the stratum corneum, while offering the convenience of a wipe. They provide safe cleansing for the most delicate newborn skin and are so gentle they can also be used on premature babies.

What makes WaterWipes different?

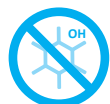


WaterWipes are the purest baby wipes in the world. They are made using 99.9% purified water and a drop of fruit extract. The liquid Grapefruit Seed Extract (GSE) used in WaterWipes is derived from the seeds, pulp and white membranes of the grapefruit. GSE has naturally occurring antimicrobial properties which help to keep the wipes fresh once opened, as well as acting as a gentle skin cleanser and conditioner.



They are the only baby wipe to have secured numerous accreditations and endorsements from global skin and allergy associations including:

- ◆ Allergy UK
- ◆ The National Eczema Association of America (NEA)
- ◆ The French Association for the Prevention of Allergies (Association Française pour la Prévention des Allergies - AFPRAL)
- ◆ The Eczema Association of Australasia (EAA)



They are alcohol and fragrance free to help reduce the risk of drying out the skin and the potential development of contact or allergic dermatitis.



WaterWipes are suitable for use on even the most sensitive skin and can be used on babies from birth.

Recommended by professionals



WaterWipes are highly recommended by midwives and other healthcare professionals worldwide and have become the preferred wipe for many Neonatal Intensive Care Units throughout Ireland, the UK, the US, Australia and New Zealand.

97% of Health Care Professionals in Ireland recommend the use of WaterWipes.¹⁴

The technology behind WaterWipes

WaterWipes have been developed using unique and patented technology that alters the molecular structure of normal water. The water used in WaterWipes is purified through a process that works to re-arrange the molecular structure of the water. This causes energy to be released within the pack, resulting in sterilized wipe material.

As well as this patented technology working to ensure sterilization of the wipe material, it also slightly alters the surface tension of the water. This altered surface tension means WaterWipes deliver a unique “soft feel” on the skin and it also makes WaterWipes even more effective at cleaning than cotton and regular water.¹⁵ See our scientific research for more information.

Unlike conventional wipes, WaterWipes rely on hygiene, care and conditioning of the product during manufacture and packaging. To achieve this they are developed under ‘cleanroom’ conditions which are comparable to those used in the pharmaceutical industry for the production of medicines.



DRAFT (midwife/dermatologist) quote for review/approval:

“While there are currently no clear guidelines available on baby and infant skincare, we do know that it is best not to use products which contain too many unnecessary chemicals or additives on sensitive baby skin. I recommend WaterWipes to parents because their unique formulation means they can be safely used on the most delicate, newborn skin and are even gentle enough to be used on premature babies.”

Robert Guaran, Neonatology Advisor, NSW Perinatal Services

“We know that newborn and infant skin is different to that of older children and adults. It is constantly evolving and can take up to a year to fully mature and function in the same way as adult skin. WaterWipes offer a simple and convenient alternative to cotton wool and water, to help ensure the essential barrier function of the skin is preserved during the first year.”



DRAFT quote from Miracle Babies representative (Australia) for review/approval:

“Having a newborn baby is an overwhelming experience for most parents - if your baby is premature this can make the first few weeks and months even more challenging. Premature baby skin is less developed and even more delicate than full-term baby skin so needs really gentle care. The simple ingredients in WaterWipes mean they offer parents of premature babies a convenient alternative to cotton wool and water, with the same levels of effective cleansing. With so many things to think about, this can be hugely reassuring.”

DRAFT quote from a National Eczema Society (UK) representative for review/approval:

“There is an increasing prevalence of childhood atopic eczema in the UK – estimates show up to 20% of children are affected. This is why it is so important to ensure new parents are aware of the need to protect their babies’ skin and use only the simplest cleansing products to help maintain the skin’s natural barrier function. The purity offered by WaterWipes mean they are a convenient and simple alternative to cotton wool and water.”



Use and Storage of WaterWipes

- WaterWipes should be stored in a cool, dry place with the tab tightly re-sealed after each use. If being stored for any extended length of time prior to use, the WaterWipes pack should be stored 'upside down' i.e. label side down.
- Our wipes do not contain added chemical thickeners or binding agents that bind the liquid to the wipes as in some other baby wipe brands. The water can sometimes migrate towards the bottom of the pack depending on handling and transportation.
- Storing the packs upside down until the pack is opened can help ensure that each wipe contains correct hydration for use.
- It is recommended that WaterWipes are not removed from their original pack and transferred to another container or wipes dispenser.
- It is recommended that WaterWipes are used within 4 weeks after the pack is opened.



Our story



WaterWipes, the world's purest baby wipes were developed by Edward McCloskey. As a new father, Edward was searching for a safer alternative to standard baby wipes for his baby daughter, who suffered from sensitive skin and nappy rash. He wanted to create a product that was as mild and pure as using cotton wool and water, but as convenient as a wipe and safe for the most delicate skin. Following many years of extensive scientific research and testing, WaterWipes were launched in Europe 2010 by Edward's company, Irish Breeze, a well-established skin care company.



Allergy UK



AFPRAL



National Eczema Association



The Eczema Association of Australasia

If you'd like more information on WaterWipes,
please email us at info@waterwipes.com

REFERENCES

- Nikolovski, J., Stamatias, G., Kollias, N., Wiegand, B., 2008. Barrier function and waterholding and transport properties of infant stratum corneum are different from adult and continue to develop through the first year of life. *Journal of Investigative Dermatology* 128, 1728–1736. Available at: <https://www.sciencedirect.com/science/article/pii/S0022202X15339439> Last accessed May 2018.
- J Rone, M., Bare, D E., Pickens, W L et al. Acid Mantle Development in the Newborn Infant. *Pediatric Research* (1997) 41, 172–172; doi:10.1203/00006450-199704001-01039
- Stamatias, G., Nikolovski, J., Luedtke, M., et al, 2010. Infant skin microstructure assessed in vivo differs from adult skin in organization and at the cellular level. *Pediatric Dermatology* 27, 125–131 Available at: <https://www.ncbi.nlm.nih.gov/pubmed/19804498> Last accessed: 2 May 2018
- Cooke, A, Bedwell, C, Campbell, M, et al. Skin care for healthy babies at term: A systematic review of the evidence. *Midwifery* 56 (2018) 29–43 Available at: [https://www.midwiferyjournal.com/article/S0266-6138\(17\)30354-6/pdf](https://www.midwiferyjournal.com/article/S0266-6138(17)30354-6/pdf) Last accessed: 2 May 2018
- Cork, M., Danby, S., Vasilopoulos, Y., et al, 2009. Epidermal barrier dysfunction in atopic dermatitis. *Journal of Investigative Dermatology* 129, 1892–1908. Available at: [https://www.jidonline.org/article/S0022-202X\(15\)34442-0/fulltext](https://www.jidonline.org/article/S0022-202X(15)34442-0/fulltext) Last accessed: 2 May 2018
- Chiou, Y., Blume-Peytavi, U., 2004. Stratum corneum maturation. A review of neonatal skin function. *Skin Pharmacology and Physiology* 17, 57–66. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/14976382> Last accessed: 2 May 2018
- Nakagawa, N., Sakai, S., Matsumoto, M., et al., 2004. Relationship between NMF (Lactate and Potassium) content and the physical properties of the stratum corneum in healthy subjects. *Journal of Investigative Dermatology* 122, 755–763. Available at: https://ac.els-cdn.com/S0022202X15306928/1-s2.0-S0022202X15306928-main.pdf?_tid=168c5a11-b5f6-4edd-9d55-a4f93c51d0b8&acdnat=1525272628_e84d3f2757de46454b328744997e139c Last accessed: 2 May 2018
- Aherton D. Mills K. What can be done to keep babies skin healthy? *RCM Midwives* 2004; 7 : 288–290
- Carolyn Lund, MSN, RN, FAAN Evidence-Based Neonatal Skin Care What's New in 2013? 10. Blume-Peytavi, U., Hauser, M., Stamatias GN., et al, 2011. Skin Care Practices for Newborns and Infants: Review of the Clinical Evidence for Best Practices Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1525-1470.2011.01594.x> Last accessed: 2 May 2018
- Danby, S., Cork, M., 2011. The skin barrier in atopic dermatitis. In: Irvine, A., Hoeger, P., Yan, A. (Eds.), *Textbook of Pediatric Dermatology*. Blackwell Publishing, Oxford.
- Danby, S., Al-Enezi, T., Sultan, A., Chittock, J., Kennedy, K., Cork, M., 2011. The effect of aqueous cream BP on the skin barrier in volunteers with a previous history of atopic dermatitis. *British Journal of Dermatology* 165, 329–334.
- Danby, S., Al Enezi, T., Sultan, A., Lavender, T., Chittock, J., Brown, K., Cork, M., 2013. Effect of Olive and Sunflower Seed Oil on the Adult Skin Barrier: implications for Neonatal Skin Care. *Pediatric Dermatology* 30, 42–50
- Spark research study, 102 Midwives, October – November 2014
- WaterWipes Data on File