Top Ten Tips for Atopic Tots: Managing childhood eczema

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Joseph M Lam, MD, FRCPC
Clinical Associate Professor, Department of Pediatrics
Associate Member, Department of Dermatology
University of British Columbia

Disclosure

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  - Consulting fees: Galderma, Johnson & Johnson, Pfizer, Pierre-Fabre, Sanofi Genzyme, Valeant

Objectives

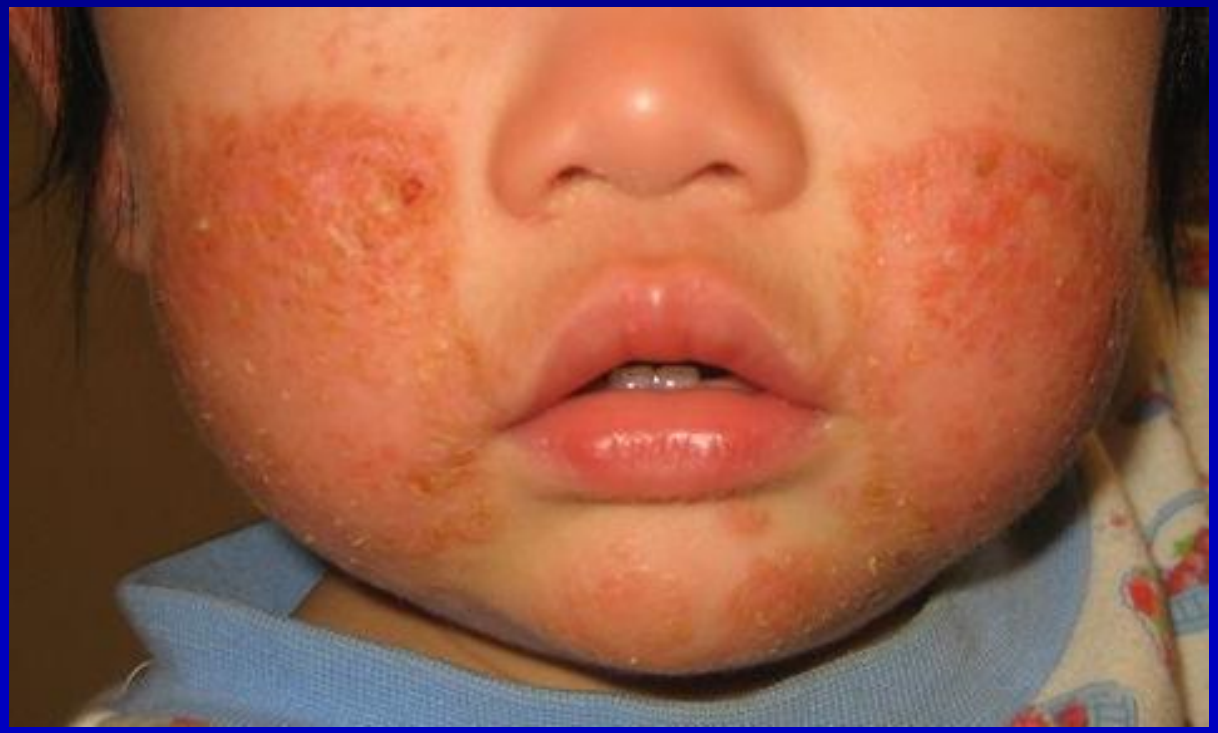
- Understand the concept of the epidermal barrier and skin inflammation in atopic dermatitis
- Discuss the importance of moisturization in atopic dermatitis prevention
- Provide useful clinical and resource tools for educating and treating atopic patients

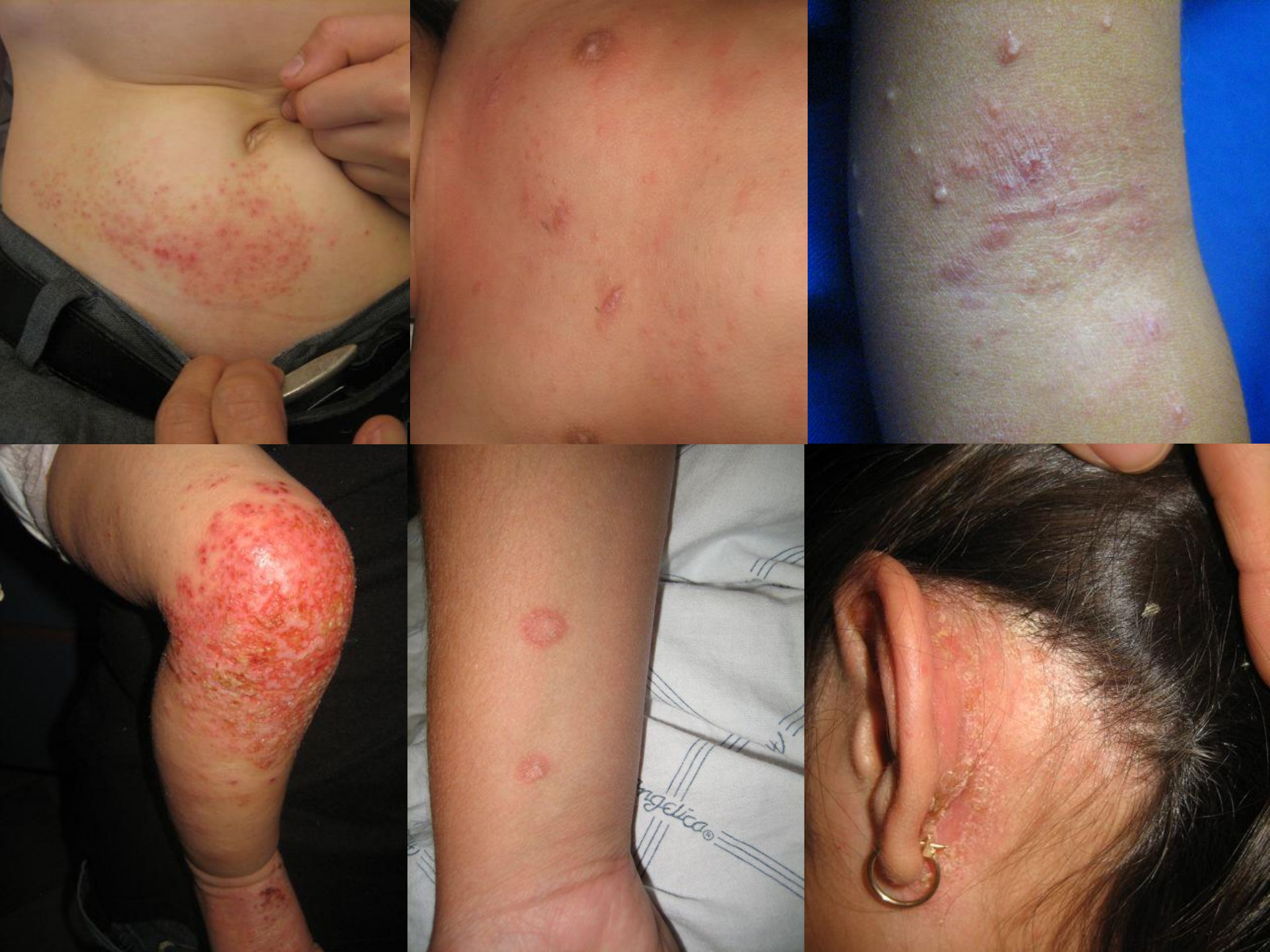
Tip #1: Watch out for atopic dermatitis mimickers

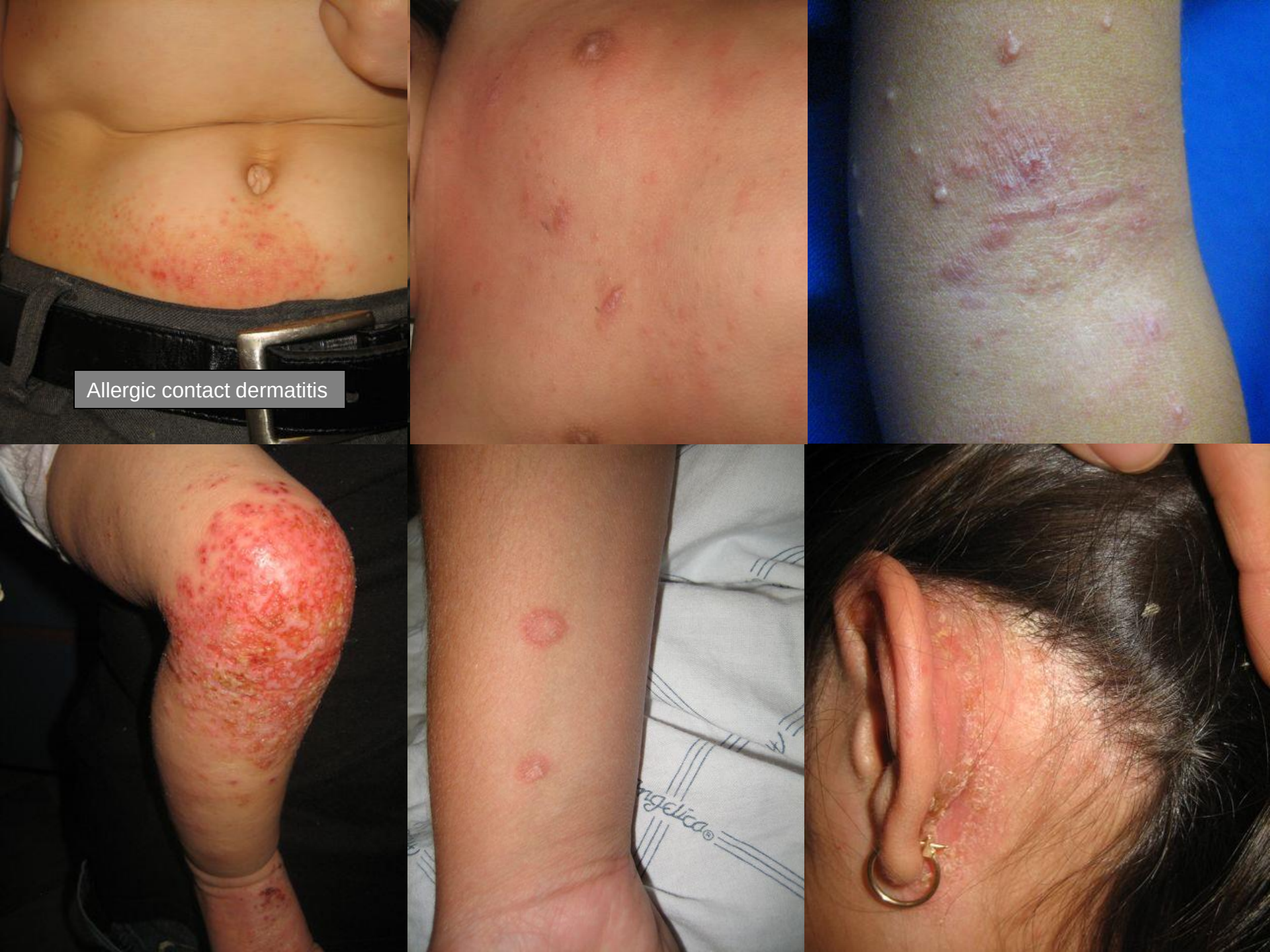
"Not all that itches is atopic dermatitis"

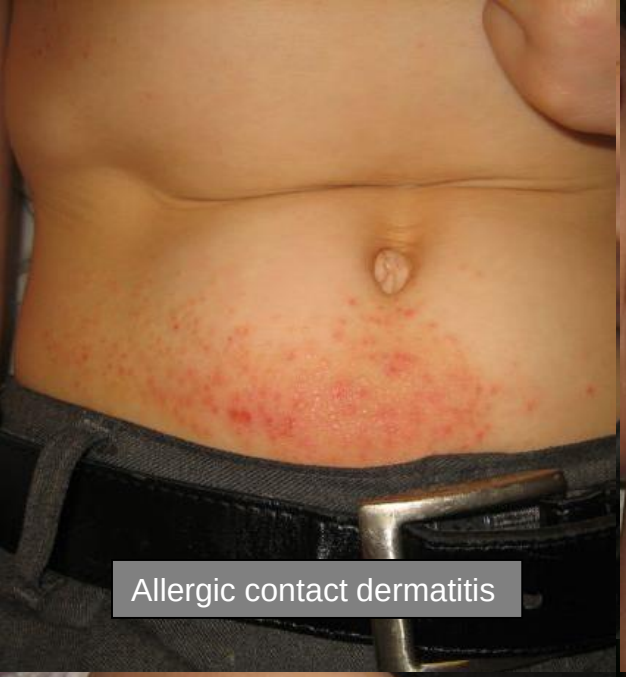
Watch out
for atopic dermatitis mimickers

Eczema = “to boil out”






Allergic contact dermatitis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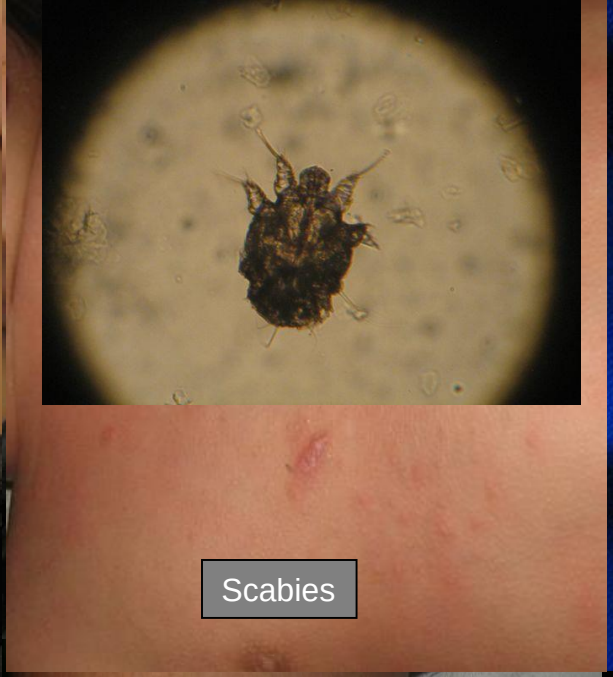
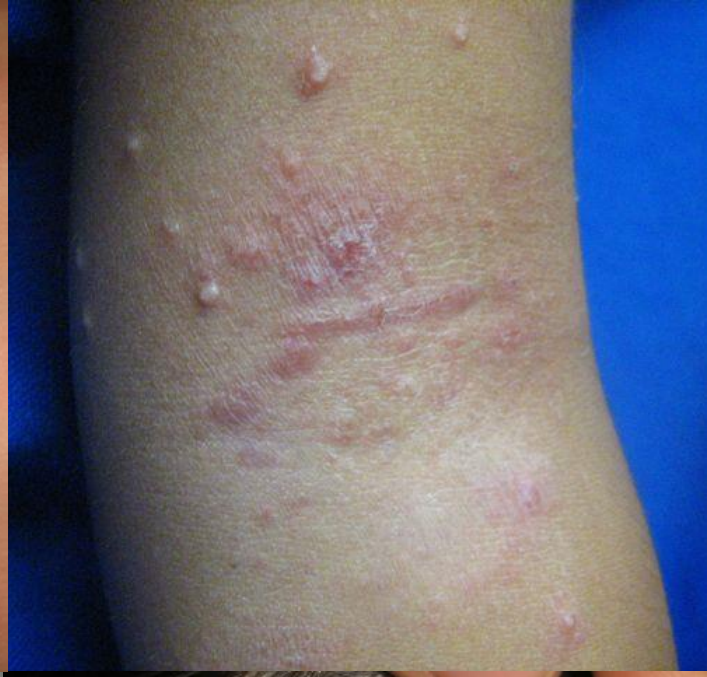
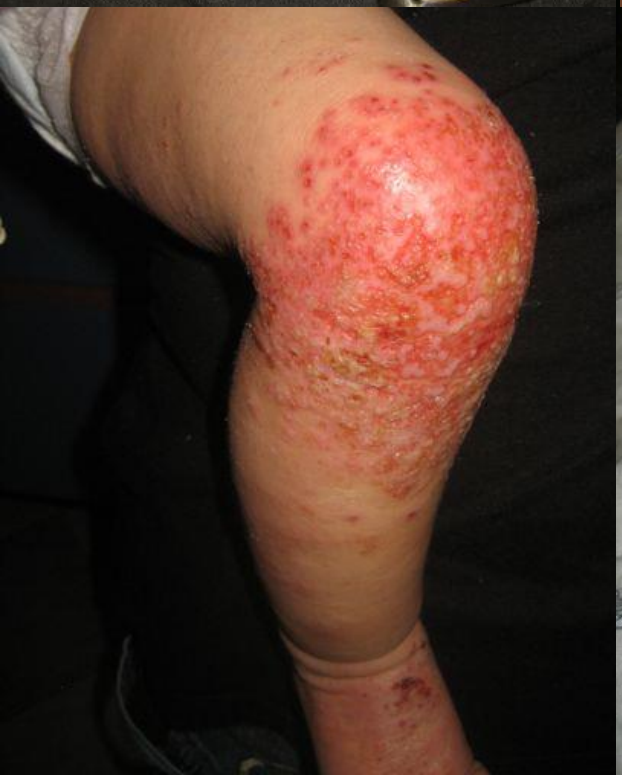
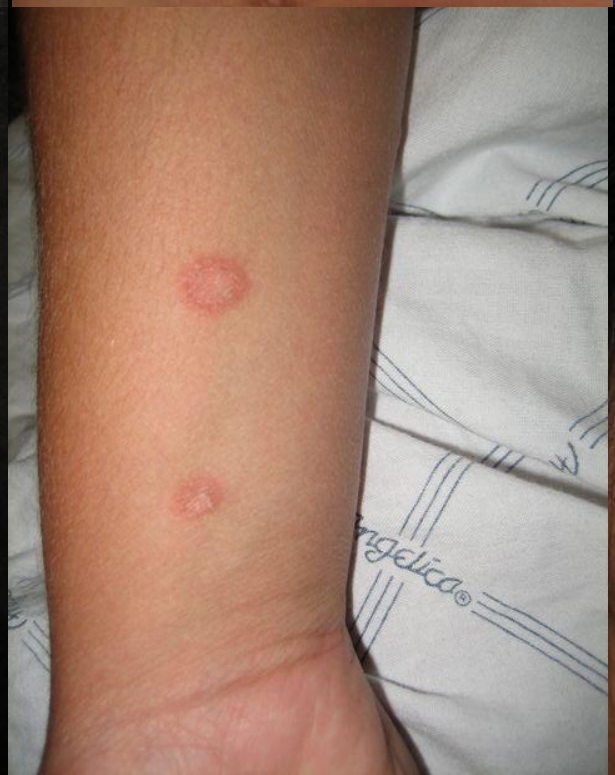
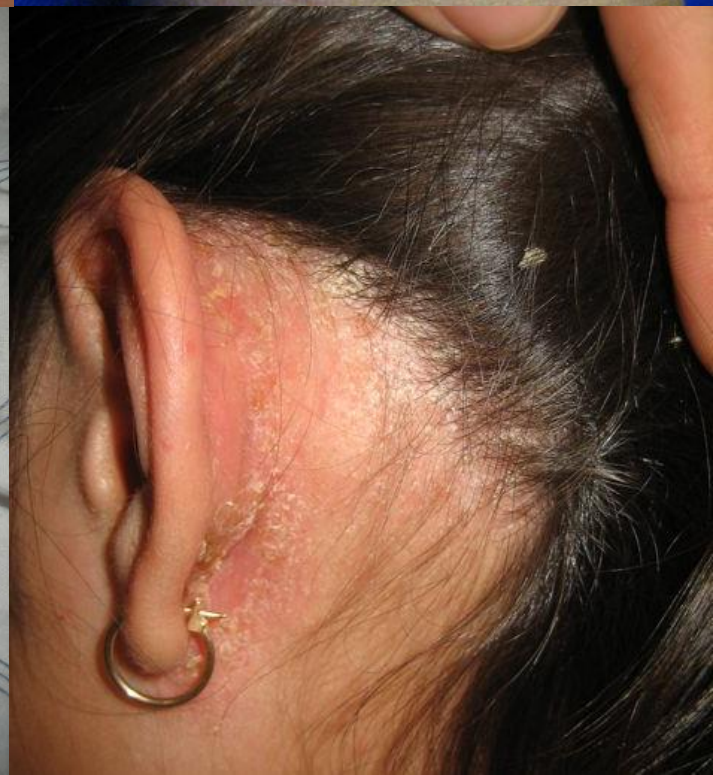
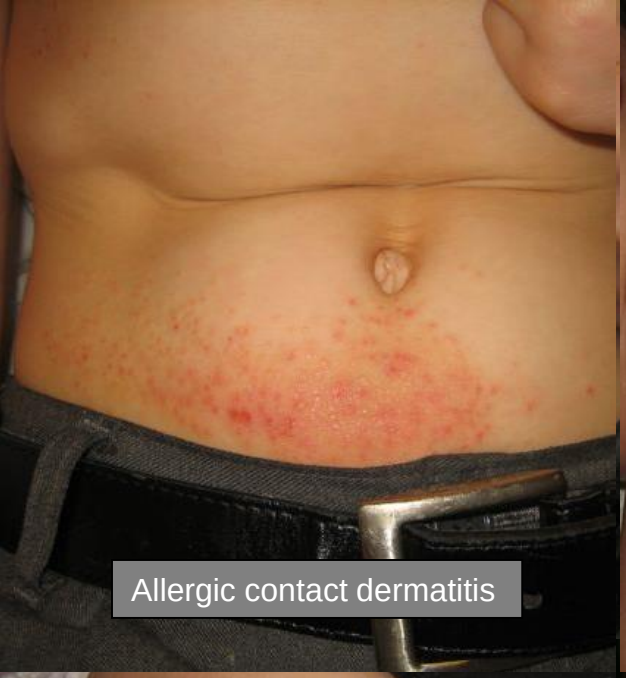

Scabies







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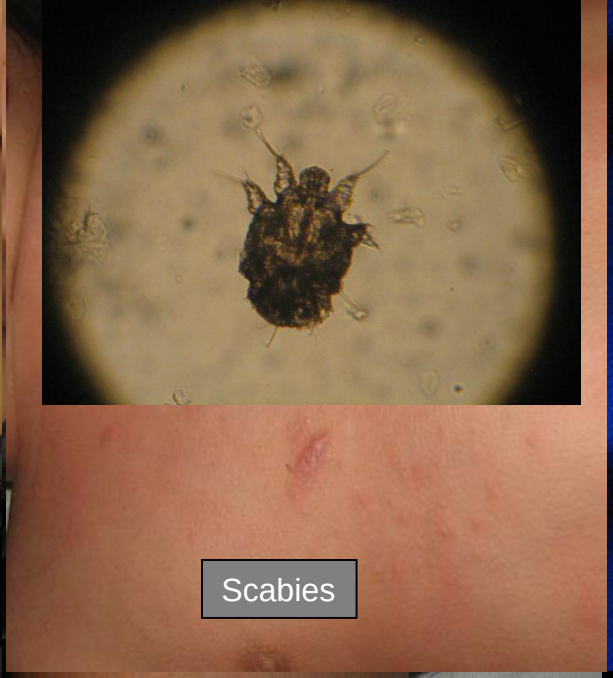
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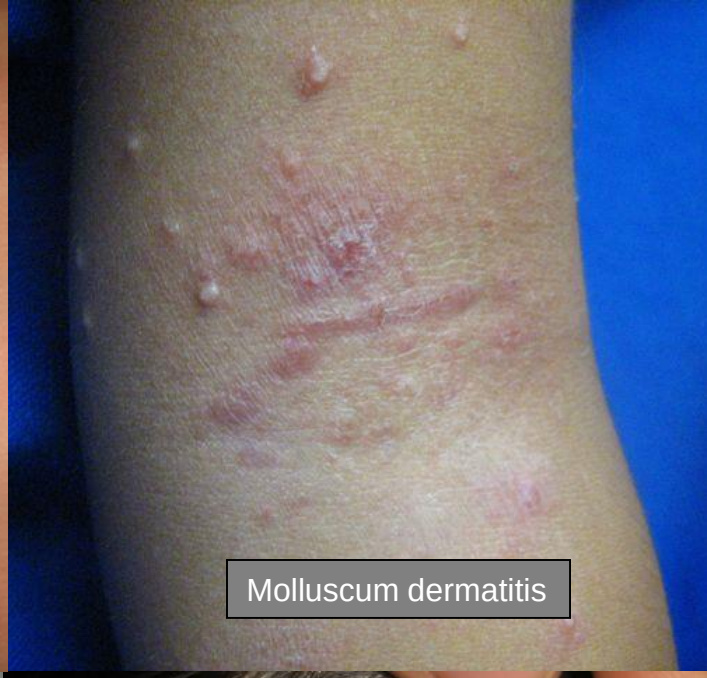
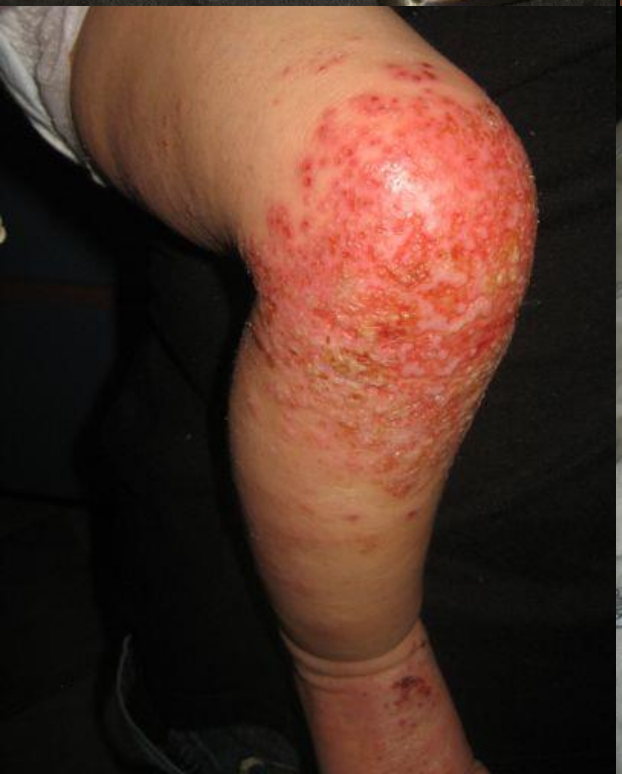
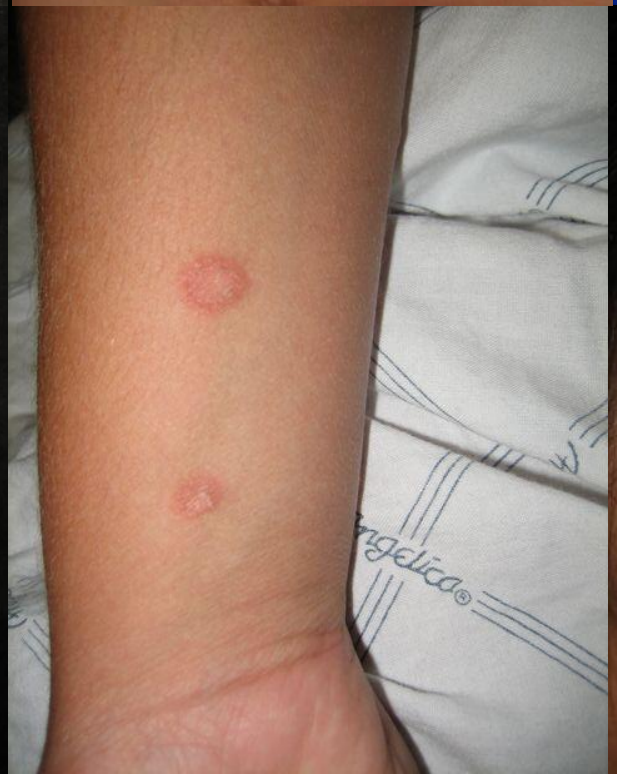
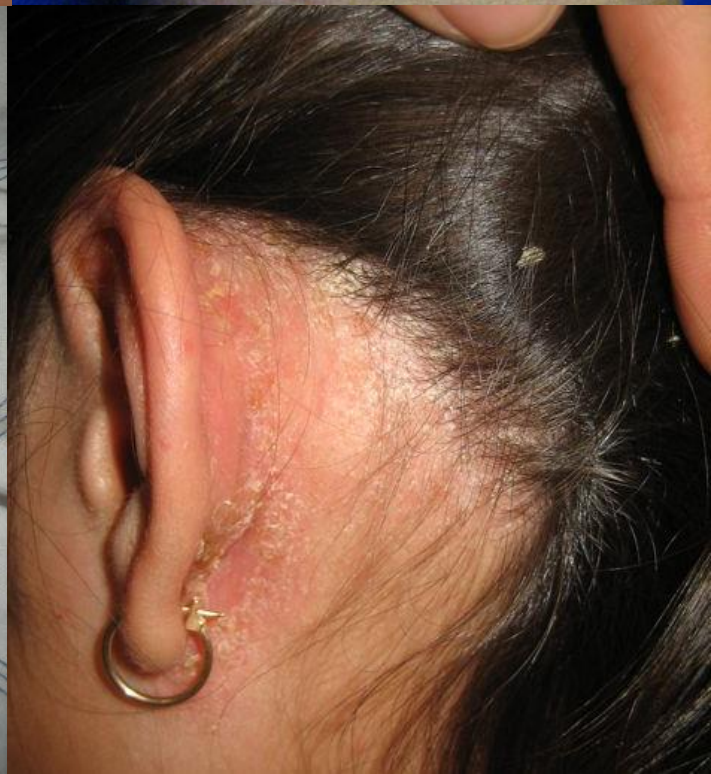
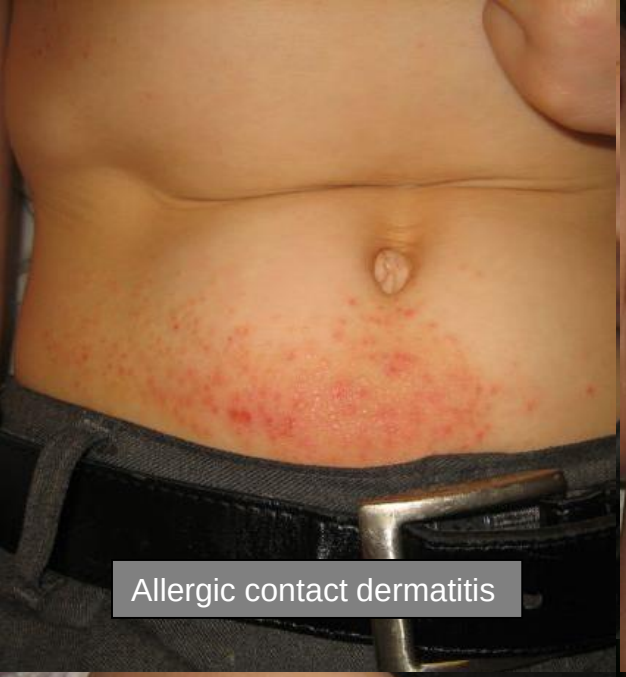

Molluscum dermatitis





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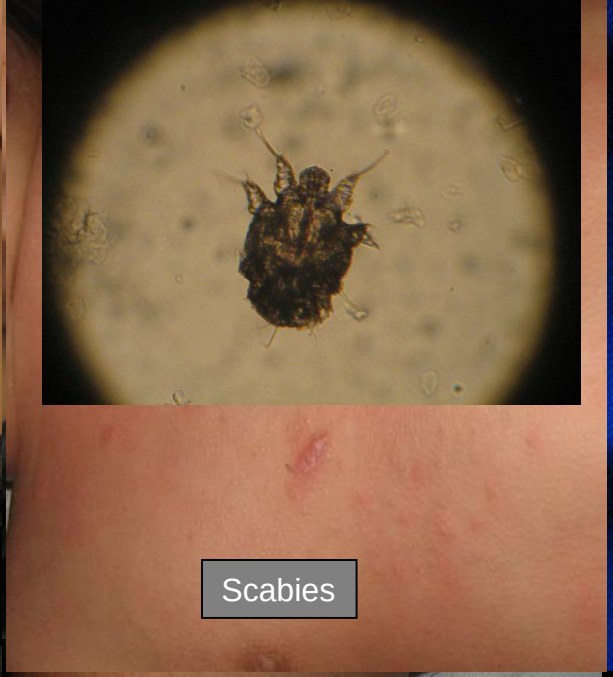
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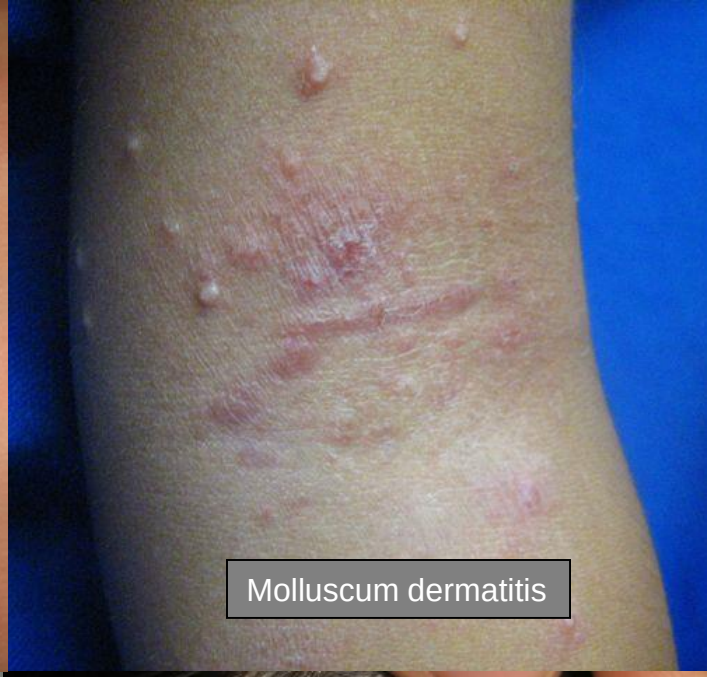
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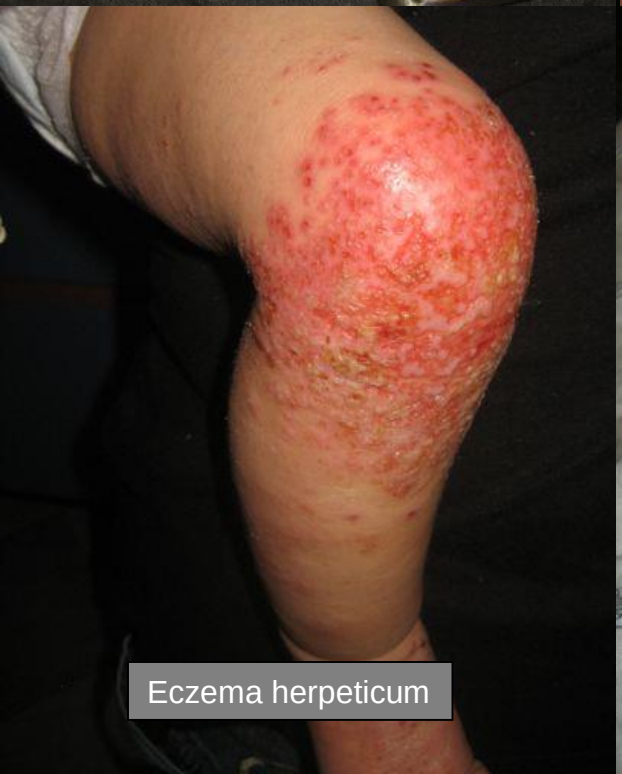
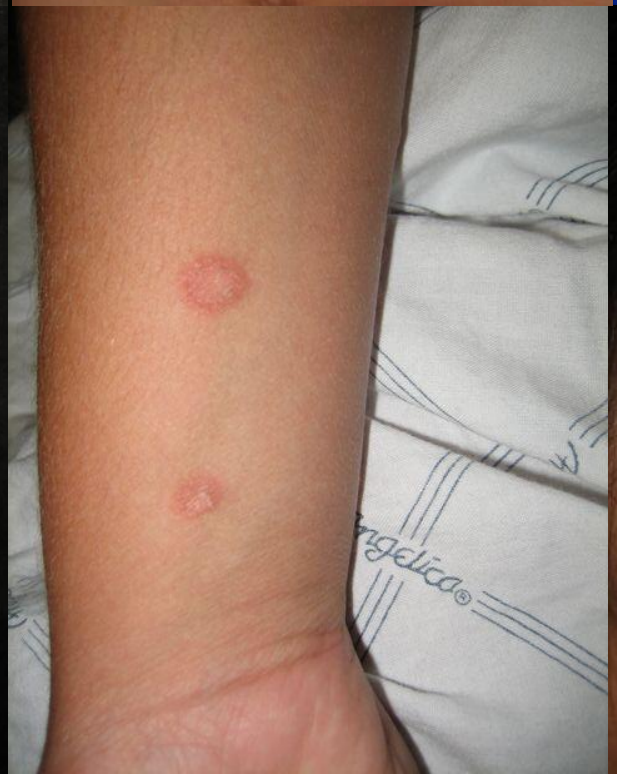
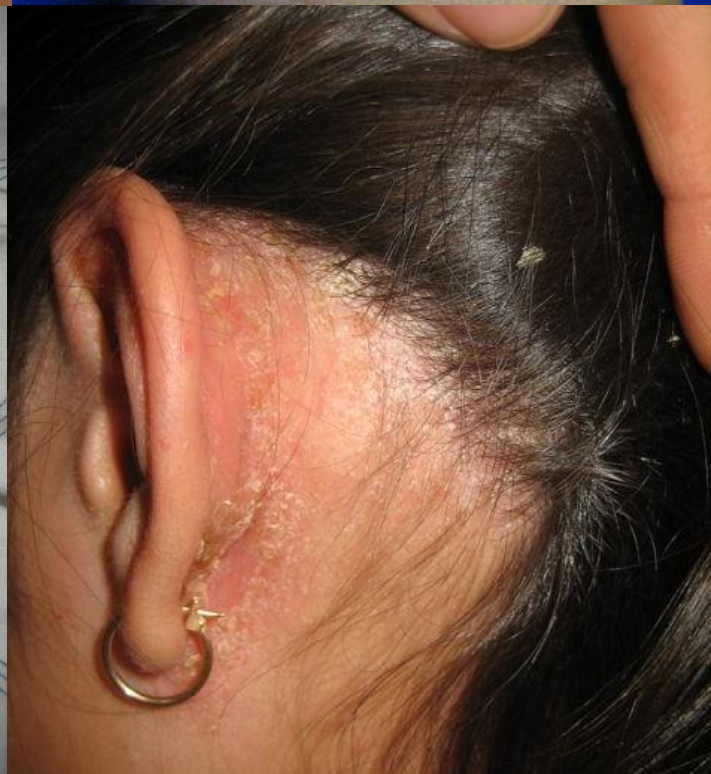
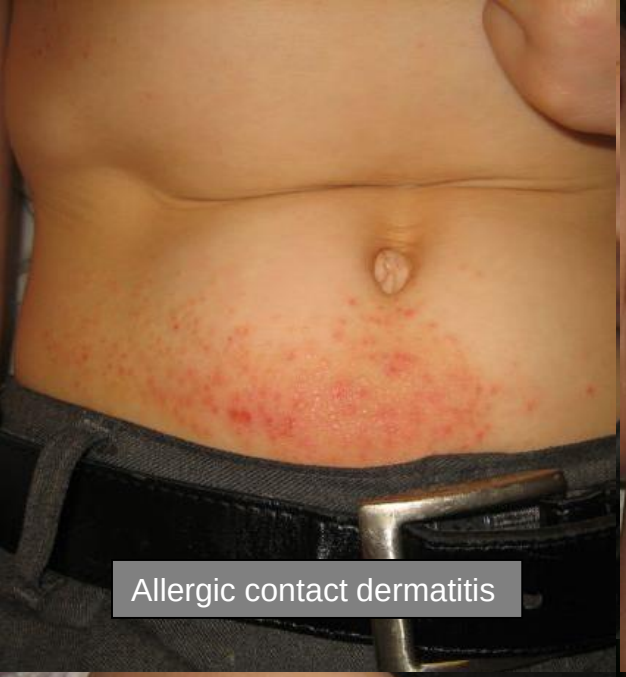

Eczema herpeticum



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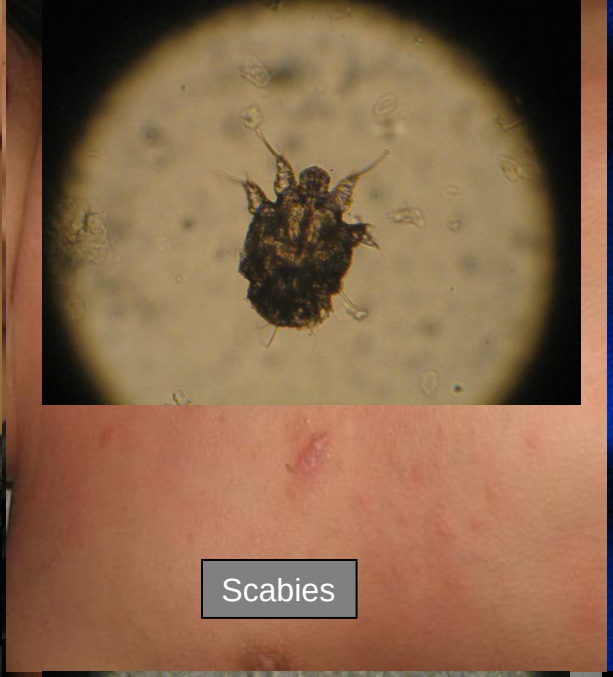
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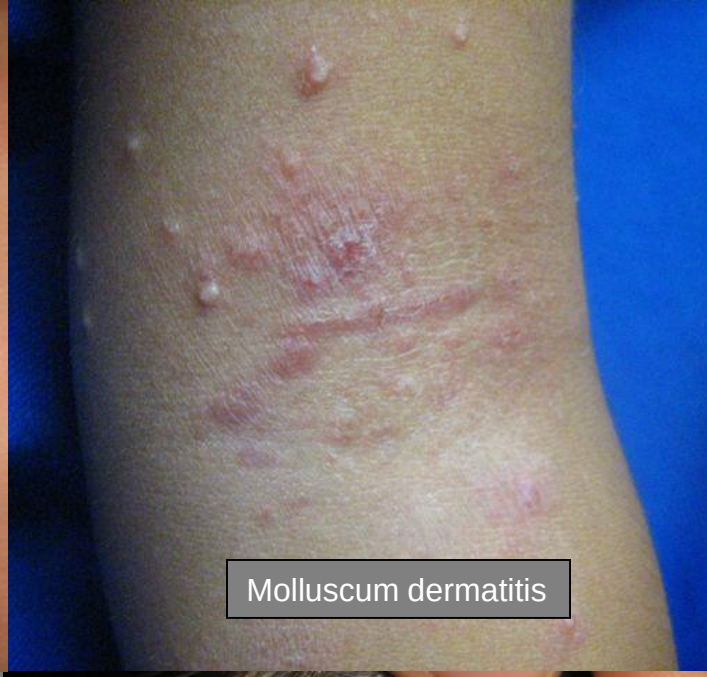
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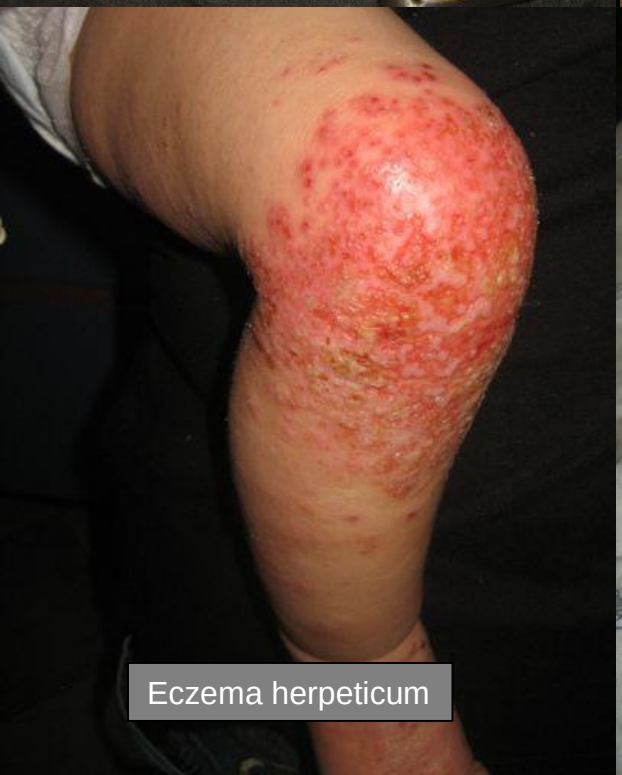
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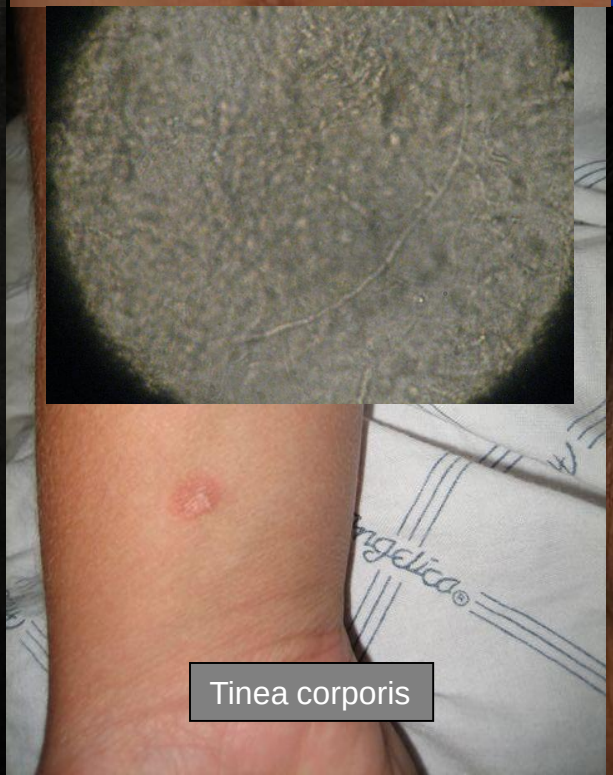
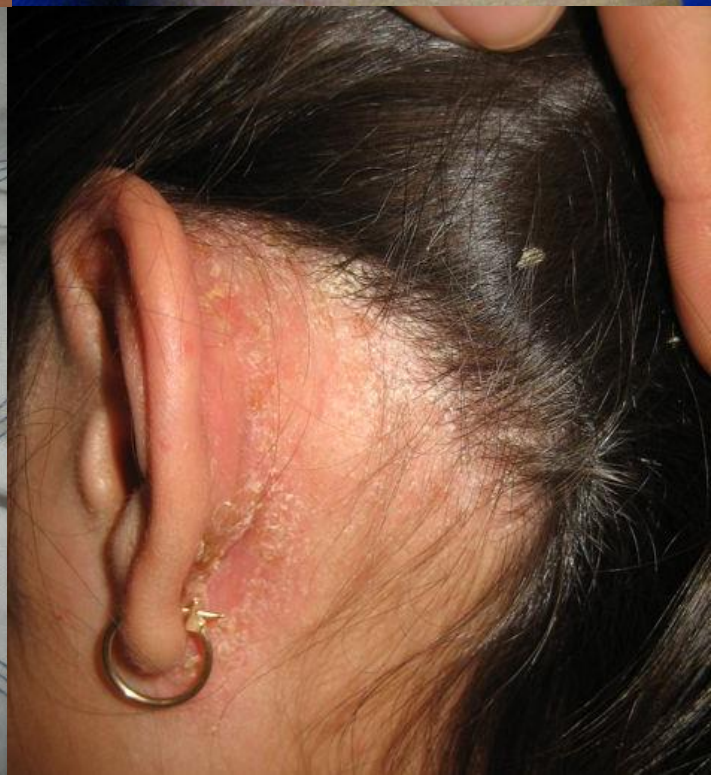
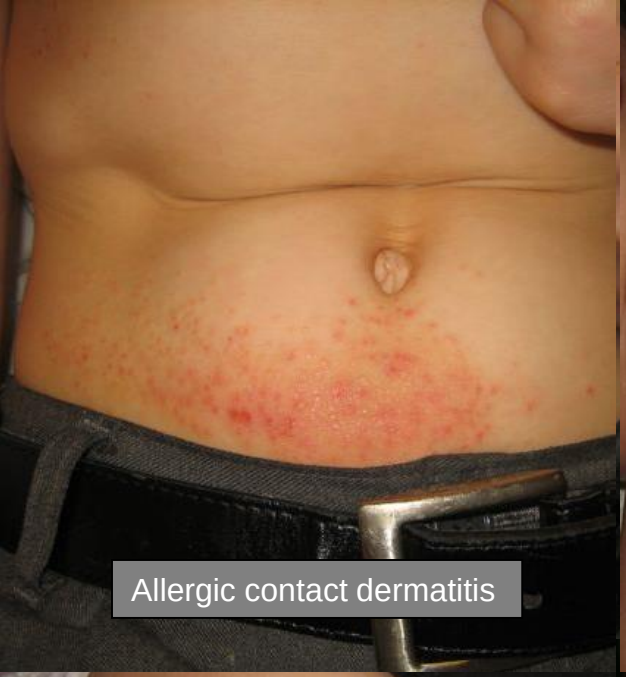

Tinea corporis

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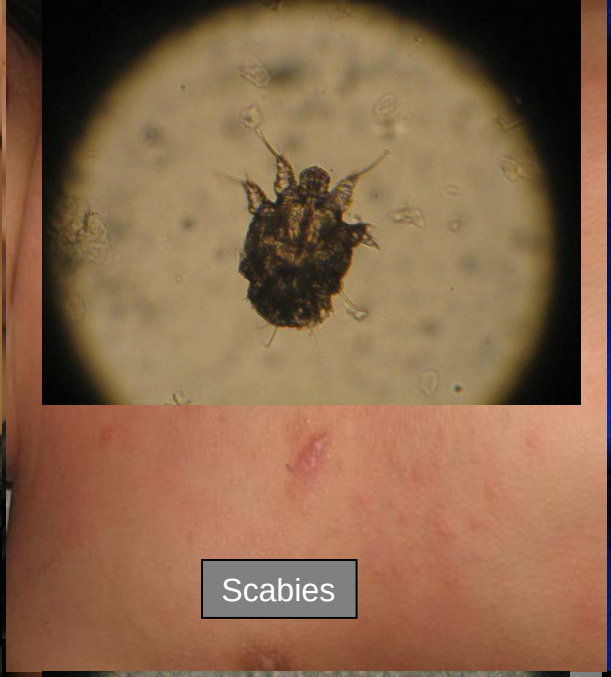
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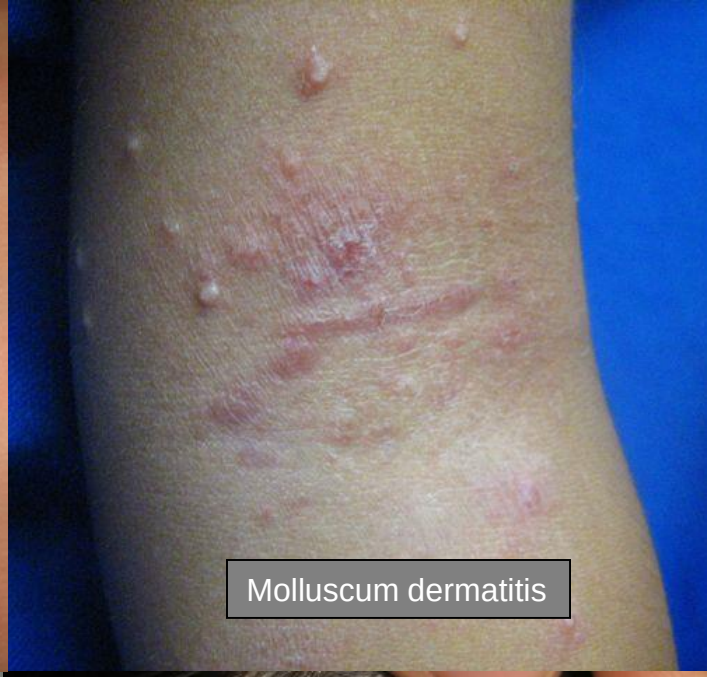
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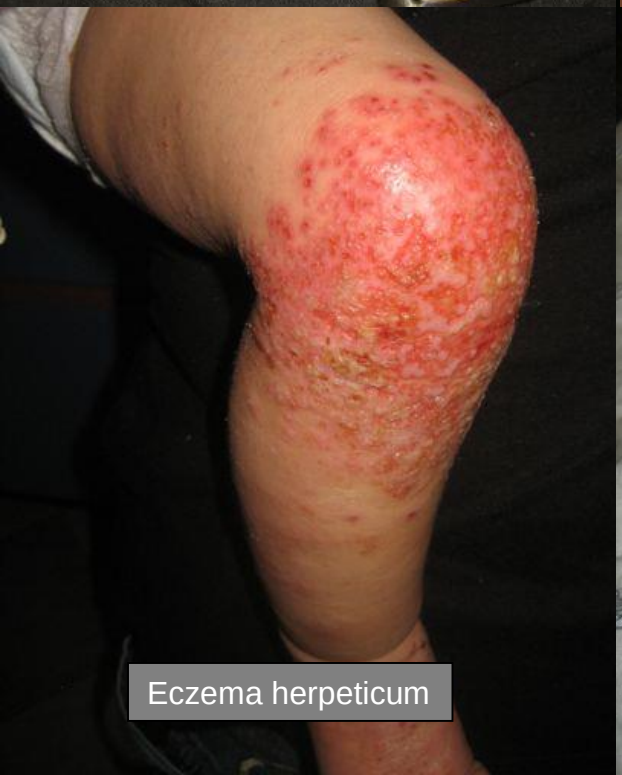
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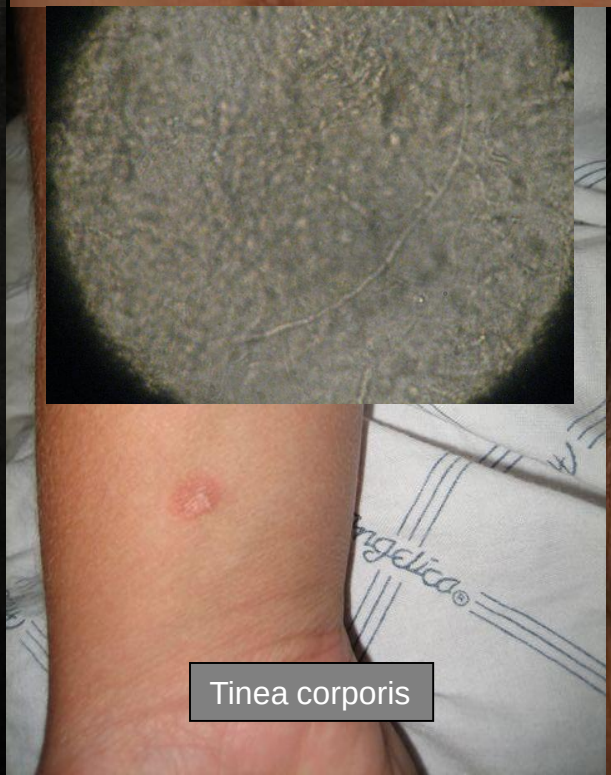
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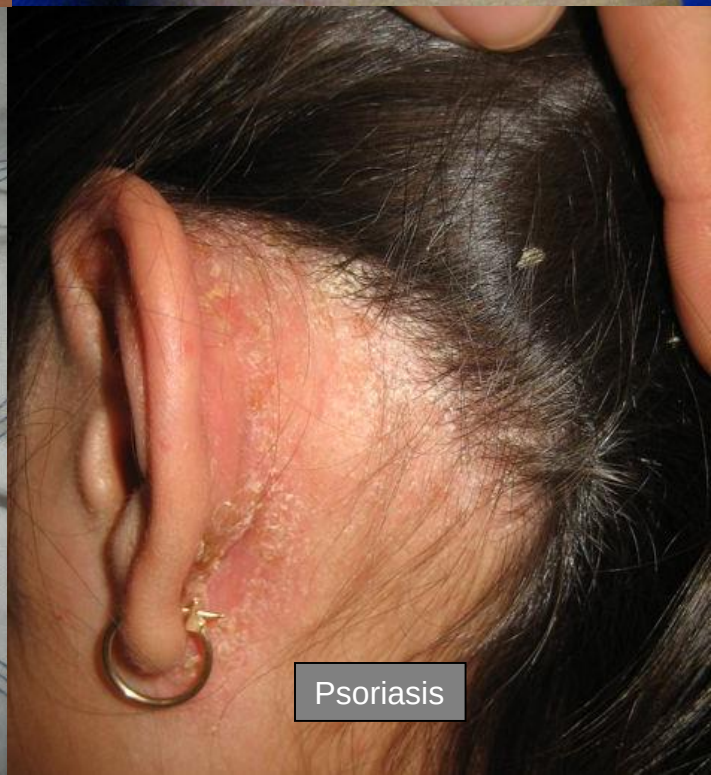

Psoriasis

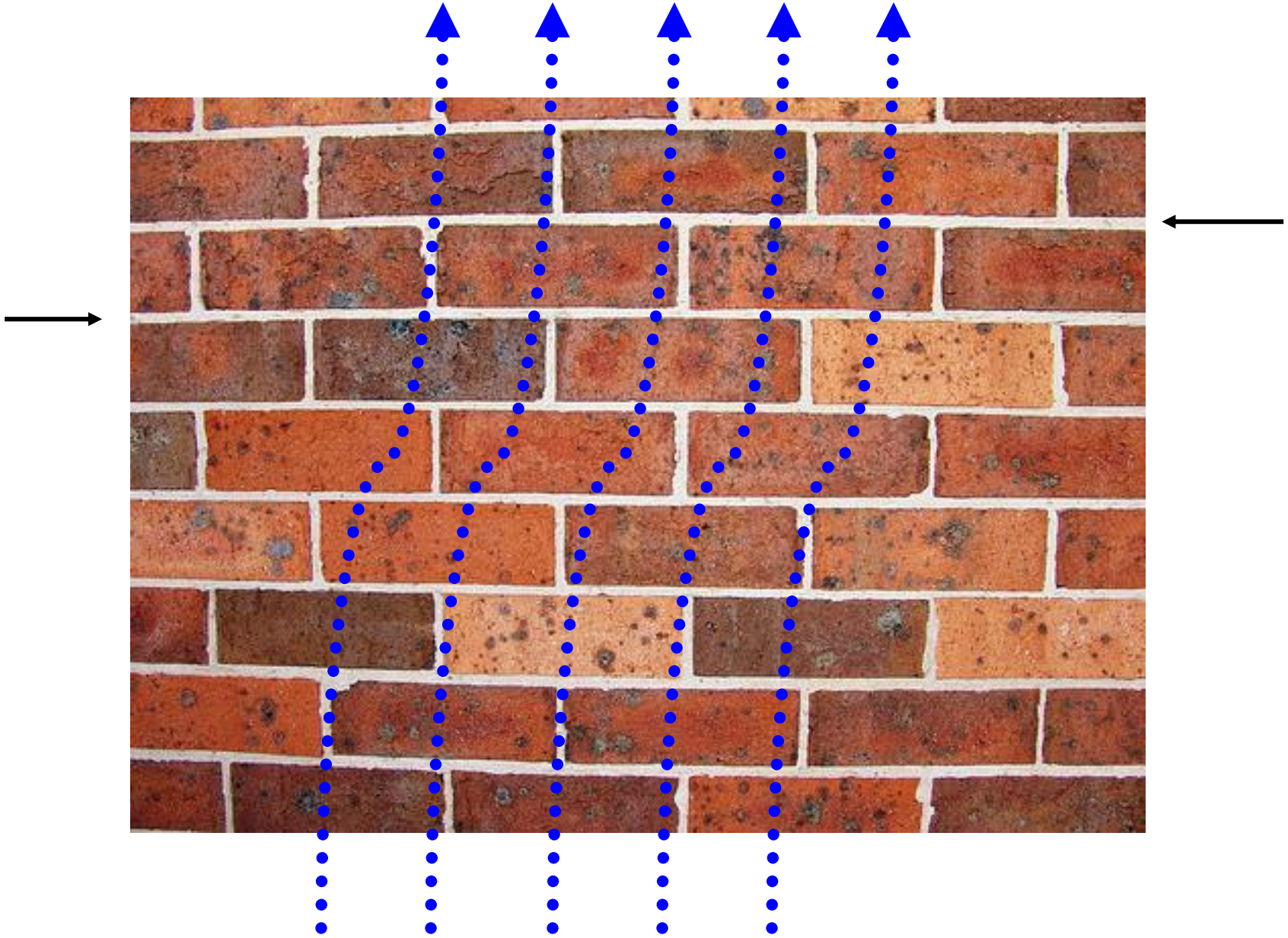
Tip #2: Education is important and can be therapeutic

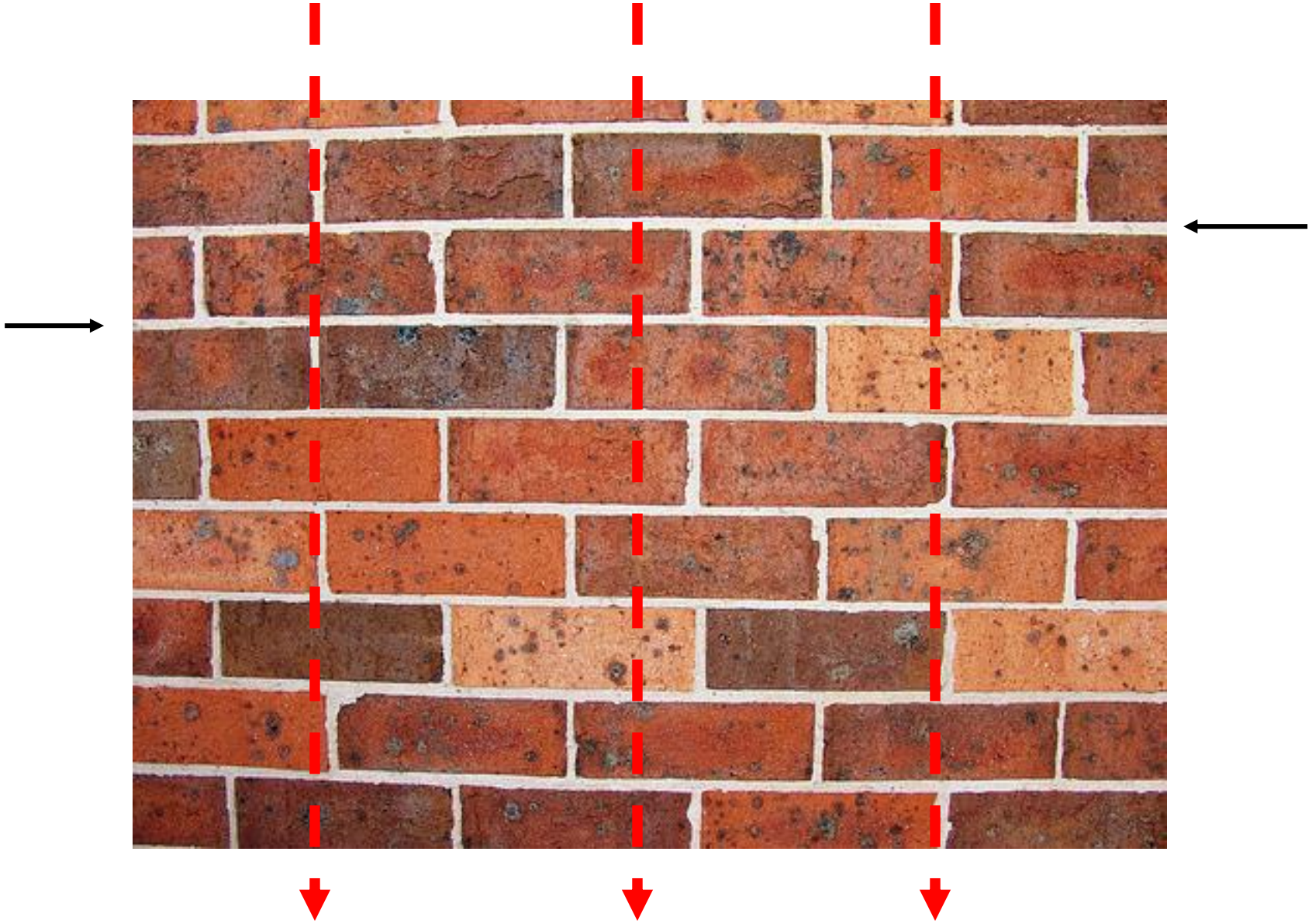
It's worth taking the time to go through the basics of eczema

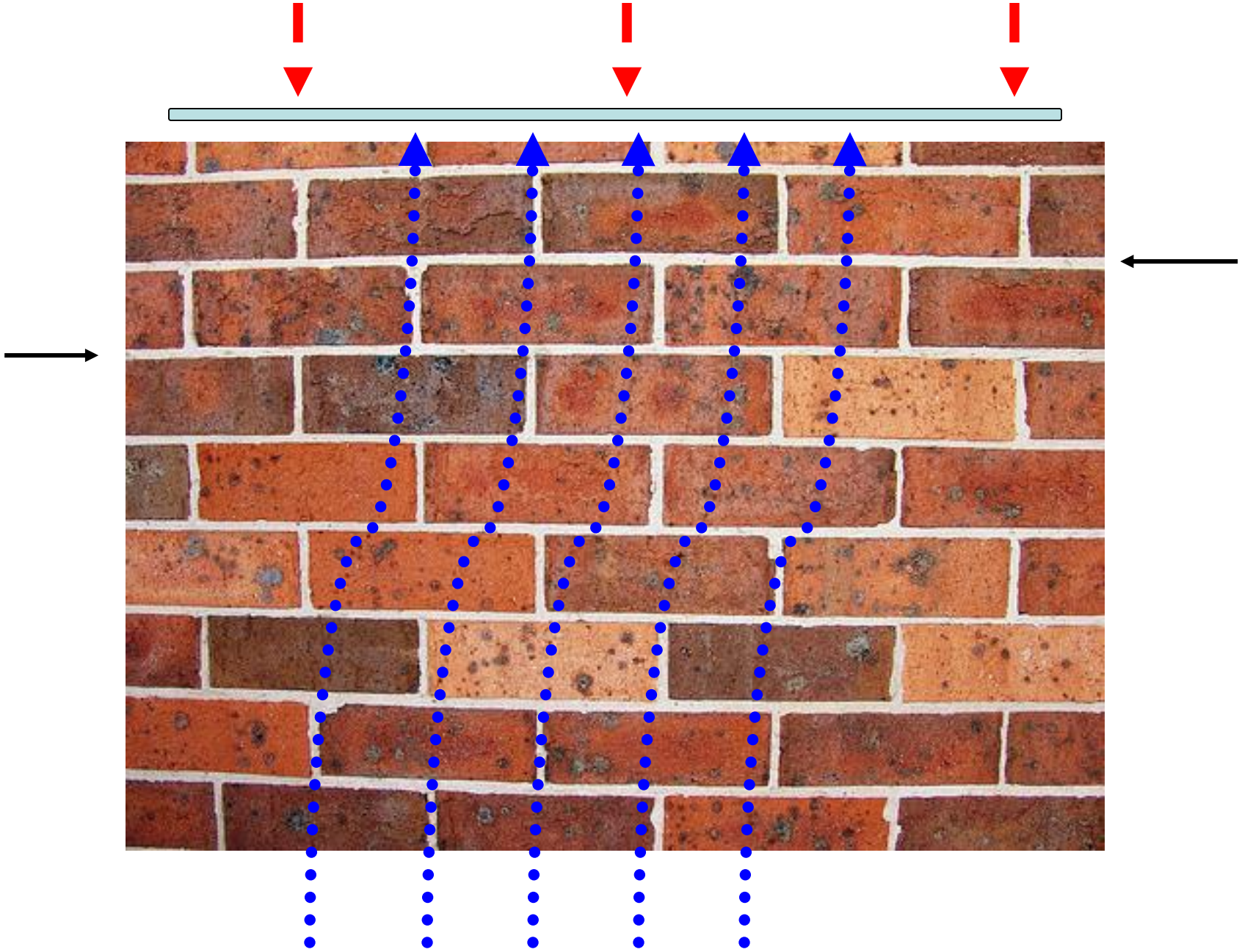
“Coles notes” <-----> Ph.D dissertation

What causes eczema?

- Multi-factorial
  - Genetics
  - Environment







Can moisturization prevent eczema?

J ALLERGY CLIN IMMUNOL
OCTOBER 2014

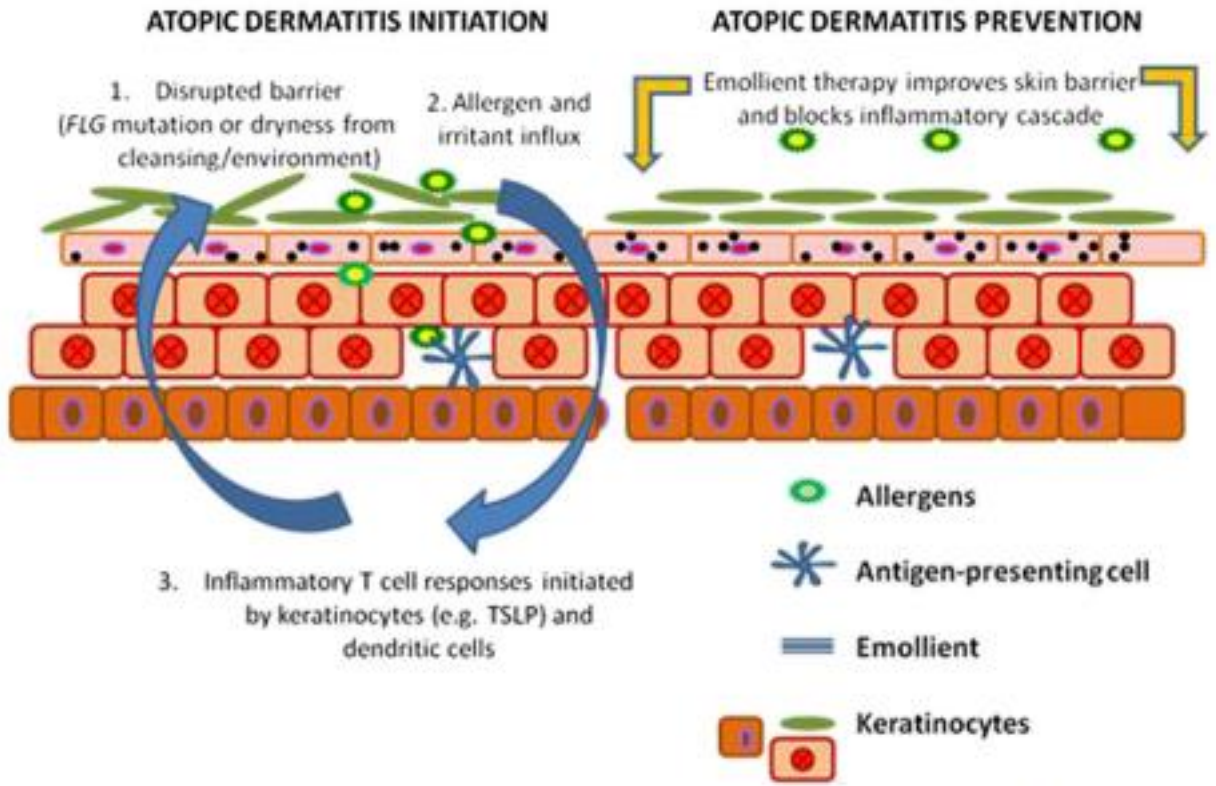


FIG 1. Skin barrier protection might prevent atopic dermatitis development. *FLG*, Filaggrin.

Emollient enhancement of the skin barrier from birth offers effective atopic dermatitis prevention

Eric L. Simpson, MD, MCR,[a] Joanne R. Chalmers, PhD,[b] Jon M. Hanifin, MD,[a] Kim S. Thomas, PhD,[b] Michael J. Cork, PhD, FRCP,[c] W. H. Irwin McLean, FRSE, FMedSci,[d] Sara J. Brown, MRCP, MD,[d] Zunqiu Chen, MS,[e] Yiyi Chen, PhD,[f] and Hywel C. Williams, DSc, FMedSci[b] *Portland, Ore, and Nottingham, Sheffield, and Dundee, United Kingdom*

Background: Atopic dermatitis (atopic eczema) is a chronic inflammatory skin disease that has reached epidemic proportions in children worldwide and is increasing in prevalence. Because of the significant socioeconomic effect of atopic dermatitis and its effect on the quality of life of children and families, there have been decades of research focused on disease prevention, with limited success. Recent advances in cutaneous biology suggest skin barrier defects might be key initiators of atopic dermatitis and possibly allergic sensitization.
Objective: Our objective was to test whether skin barrier enhancement from birth represents a feasible strategy for reducing the incidence of atopic dermatitis in high-risk neonates.
Methods: We performed a randomized controlled trial in the United States and United Kingdom of 124 neonates at high risk for atopic dermatitis. Parents in the intervention arm were instructed to apply full-body emollient therapy at least once per day starting within 3 weeks of birth. Parents in the control arm were asked to use no emollients. The primary feasibility outcome was the percentage of families willing to be randomized. The primary clinical outcome was the cumulative incidence of atopic dermatitis at 6 months, as assessed by a trained investigator.
Results: Forty-two percent of eligible families agreed to be randomized into the trial. All participating families in the intervention arm found the intervention acceptable.
A statistically significant protective effect was found with the use of daily emollient on the cumulative incidence of atopic dermatitis with a relative risk reduction of 50% (relative risk, 0.50; 95% CI, 0.28-0.9; $P = .017$). There were no emollient-related adverse events and no differences in adverse events between groups.
Conclusion: The results of this trial demonstrate that emollient therapy from birth represents a feasible, safe, and effective approach for atopic dermatitis prevention. If confirmed in larger trials, emollient therapy from birth would be a simple and low-cost intervention that could reduce the global burden of allergic diseases. (J Allergy Clin Immunol 2014;134:818-23.)

Key words: *Atopic dermatitis, eczema, skin barrier, prevention, emollients*

From [a]the Department of Dermatology, [e]the Oregon Clinical & Translational Research Institute, and [f]Public Health & Preventive Medicine, Oregon Health & Science University, Portland; [b]the Centre of Evidence Based Dermatology, University of Nottingham; [c]Dermatology Research, Department of Infection and Immunity, University of Sheffield; and [d]Dermatology & Genetic Medicine, University of Dundee.

This report presents independent research funded by the National Institute for Health Research (NIHR) under its Programme Grants for Applied Research Programme (RP-

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Clinical end points

Daily emollient use significantly reduced the cumulative incidence of atopic dermatitis at 6 months (43% in the control group vs 22% in the emollient group). This corresponds to a relative risk reduction of 50% (relative risk, 0.50; 95% CI, 0.28-

enhancement from birth represents a feasible strategy for reducing the incidence of atopic dermatitis in high-risk neonates. Methods: We performed a randomized controlled trial in the United States and United Kingdom of 124 neonates at high risk for atopic dermatitis. Parents in the intervention arm were instructed of daily emollient on the cumulative incidence of atopic dermatitis with a relative risk reduction of 50% (relative risk, 0.50; 95% CI, 0.28-0.9; $P = .017$). There were no emollient-related adverse events and no differences in adverse events between groups. Conclusion: The results of this trial demonstrate that emollient therapy from birth represents a feasible, safe, and effective approach for atopic dermatitis prevention. If confirmed in larger trials, emollient therapy from birth would be a simple and low-cost intervention that could reduce the global burden of allergic diseases. (J Allergy Clin Immunol 2014;134:818-23.)

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Application of moisturizer to neonates prevents development of atopic dermatitis

Kenta Horimukai, MD,[a]* Kumiko Morita, MD,[a]* Masami Narita, MD, PhD,[a] Mai Kondo, MD,[a] Hiroshi Kitazawa, MD, PhD,[a] Makoto Nozaki, MD,[b] Yukiko Shigematsu, MD,[b] Kazue Yoshida, MD, PhD,[b] Hironori Niizeki, MD, PhD,[b] Ken-ichiro Motomura, MD,[c] Haruhiko Sago, MD, PhD,[c] Tetsuya Takimoto, MD, PhD,[d] Eisuke Inoue, PhD,[d] Norio Kamemura, PhD,[e] Hiroshi Kido, MD, PhD,[e] Junzo Hisatsune, PhD,[f] Motoyuki Sugai, DDS, PhD,[f] Hiroyuki Murota, MD, PhD,[g] Ichiro Katayama, MD, PhD,[g] Takashi Sasaki, PhD,[h] Masayuki Amagai, MD, PhD,[h] Hideaki Morita, MD, PhD,[i] Akio Matsuda, PhD,[i] Kenji Matsumoto, MD, PhD,[i] Hirohisa Saito, MD, PhD,[i] and Yukihiro Ohya, MD, PhD[a] *Tokyo, Tokushima, Hiroshima, and Osaka, Japan*

From [a]the Division of Allergy, Department of Medical Subspecialties, [b]the Division of Dermatology, Department of Surgical Subspecialties, [c]the Center of Maternal-Fetal, Neonatal and Reproductive Medicine, and [d]the Clinical Research Center, National Center for Child Health and Development, Tokyo; [e]the Division of Enzyme Chemistry, Institute for Enzyme Research, Tokushima University; [f]the Department of Bacteriology, Hiroshima University Graduate School of Biomedical and Health Sciences, Hiroshima University; [g]the Department of Dermatology, Course of Integrated Medicine, Graduate School of Medicine, Osaka University; [h]the Department of Dermatology, Keio University School of Medicine, Tokyo; and [i]the Department of Allergy and Immunology, National Research Institute for Child Health and Development, Tokyo.

*These authors contributed equally to this work.

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Application of moisturizer to neonates prevents development of atopic dermatitis

Kenta Horimukai, MD,[a]* Kumiko Morita, MD,[a]* Masami Narita, MD, PhD,[a] Mai Kondo, MD,[a] Hiroshi Kitazawa, MD, PhD,[a] Makoto Nozaki, MD,[b] Yukiko Shigematsu, MD,[b] Kazue Yoshida, MD, PhD,[b] Hironori Niizeki, MD, PhD,[b] Ken-ichiro Motomura, MD,[c] Haruhiko Sago, MD, PhD,[c] Tetsuya Takimoto, MD, PhD,[d] Eisuke Inoue, PhD,[d] Norio Kamemura, PhD,[e] Hiroshi Kido, MD, PhD,[e] Junzo Hisatsune, PhD,[f] Motoyuki Sugai, DDS, PhD,[f] Hiroyuki Murota, MD, PhD,[g] Ichiro Katayama, MD, PhD,[g] Takashi Sasaki, PhD,[h] Masayuki Amagai, MD, PhD,[h] Hideaki Morita, MD, PhD,[i] Akio Matsuda, PhD,[i] Kenji Matsumoto, MD, PhD,[i] Hirohisa Saito, MD, PhD,[i] and Yukihiro Ohya, MD, PhD[a] *Tokyo, Tokushima, Hiroshima, and Osaka, Japan*

From [a]the Division of Allergy, Department of Medical Subspecialties, [b]the Division of Dermatology, Department of Surgical Subspecialties, [c]the Center of Maternal-Fetal, Neonatal and Reproductive Medicine, and [d]the Clinical Research Center, National Ce... Ins... olo... os... Gr... Ke... Im...

Results: Approximately 32% fewer neonates who received the moisturizer had AD/eczema by week 32 than control subjects ($P = .012$, log-rank test).

*These authors contributed equally to this work.

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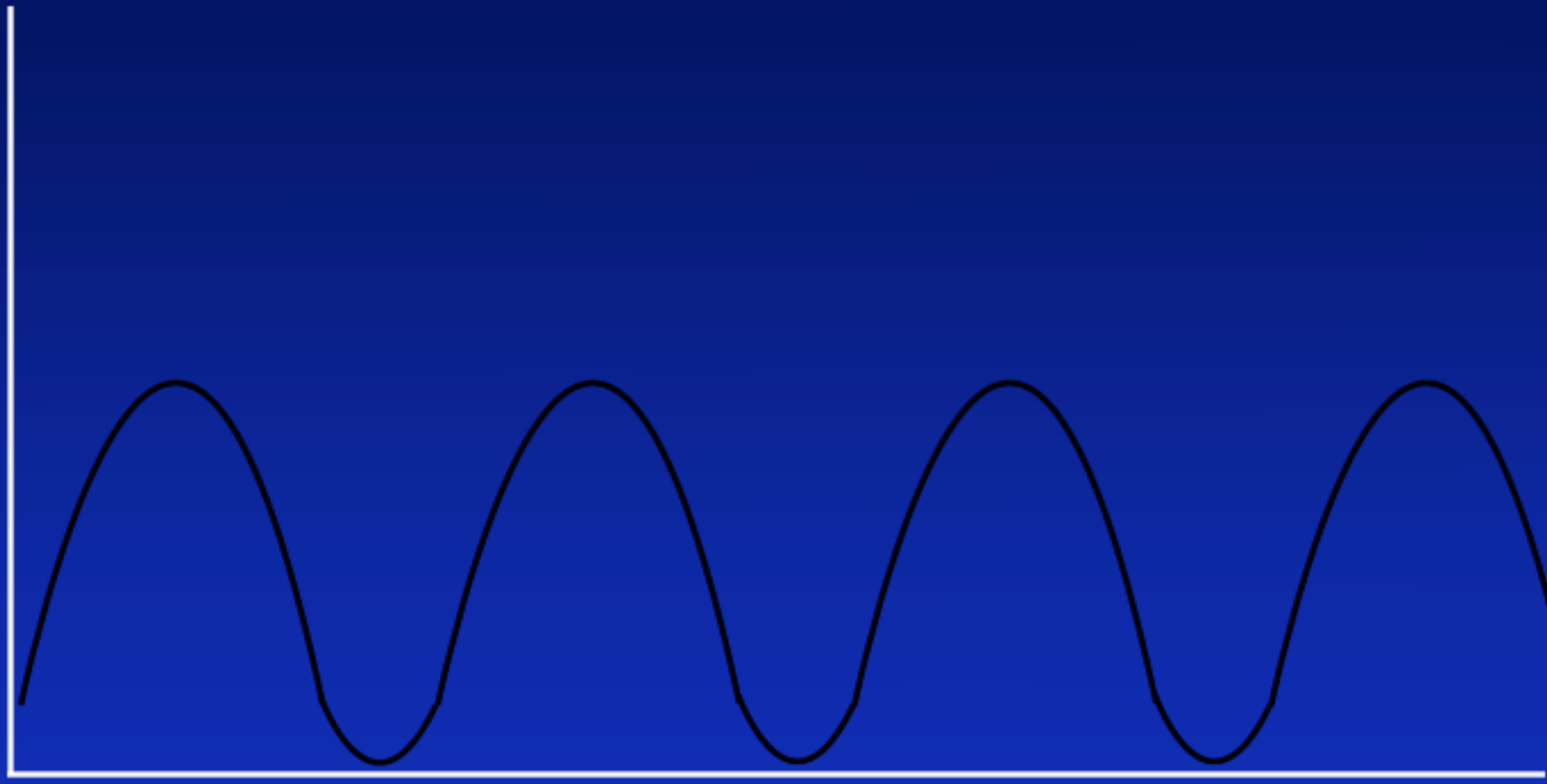
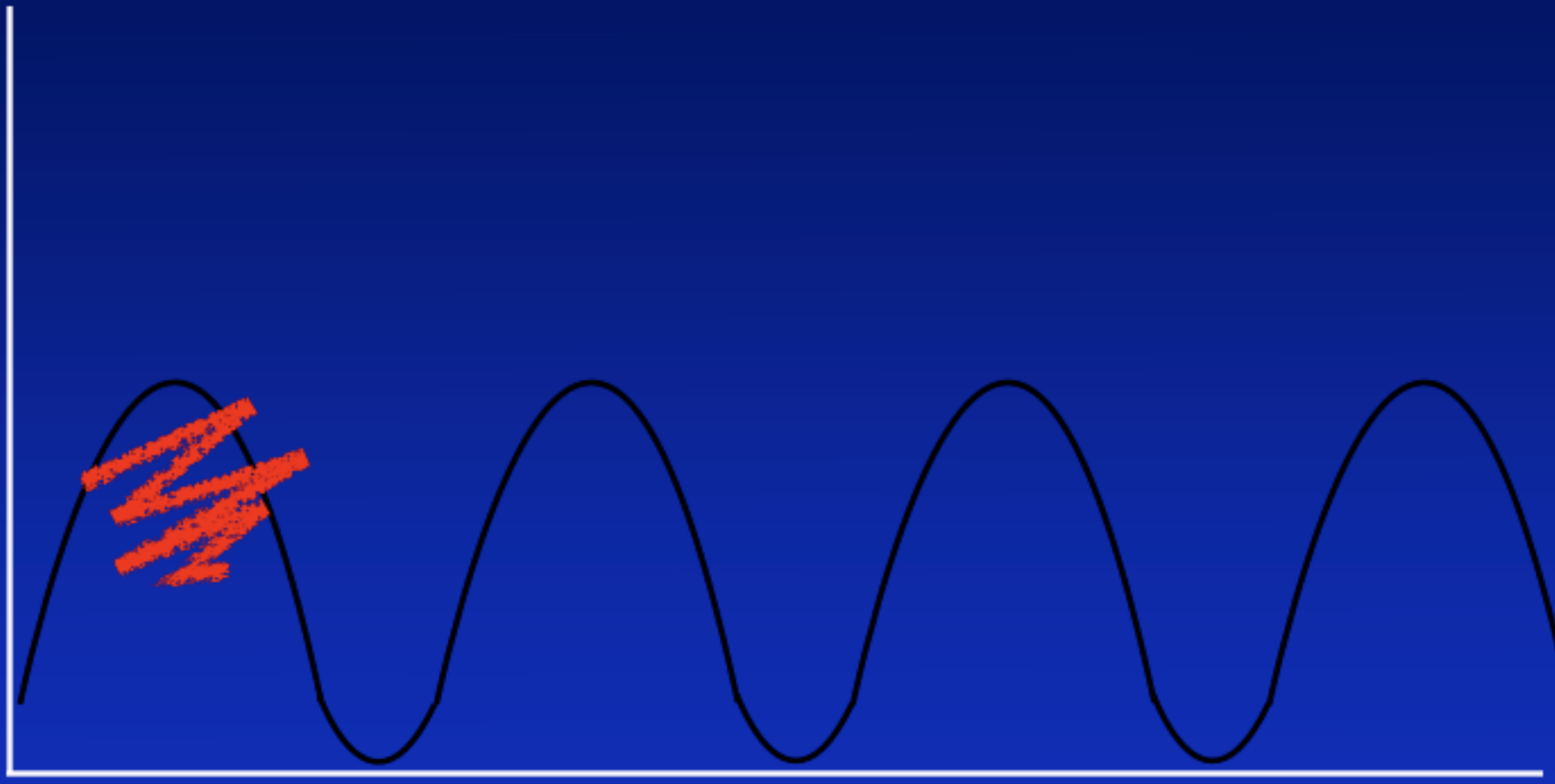
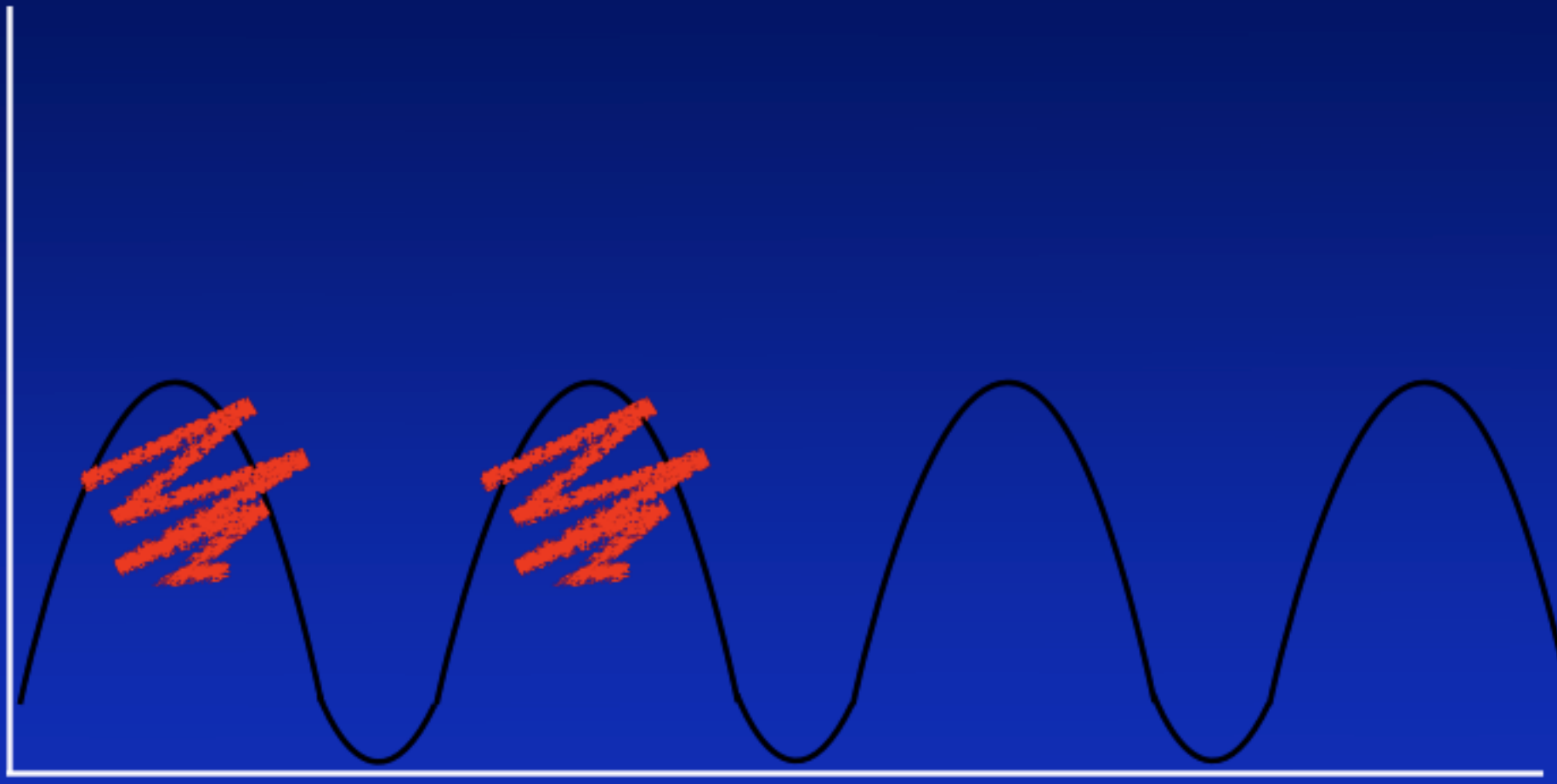
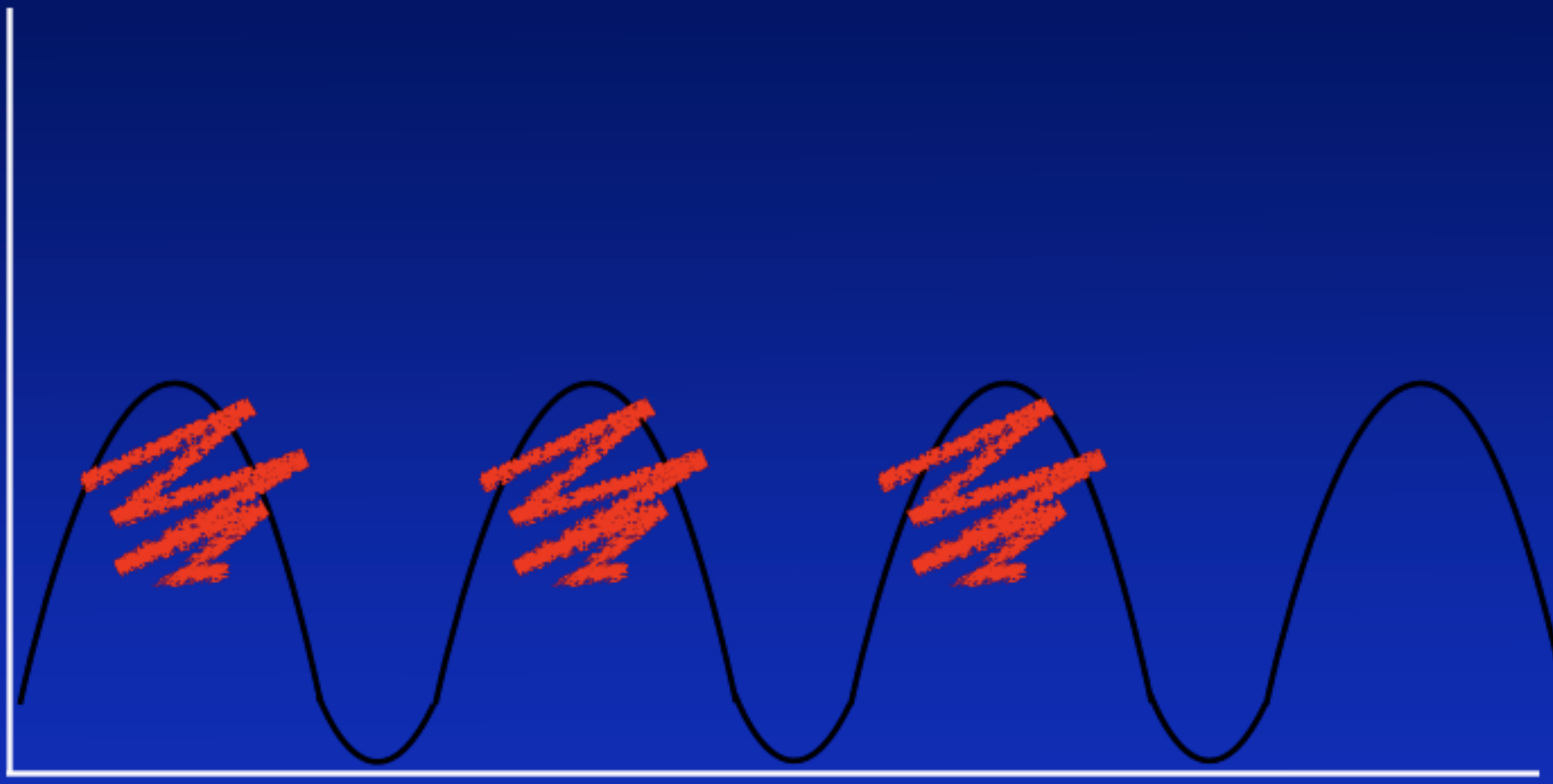
Set realistic expectations

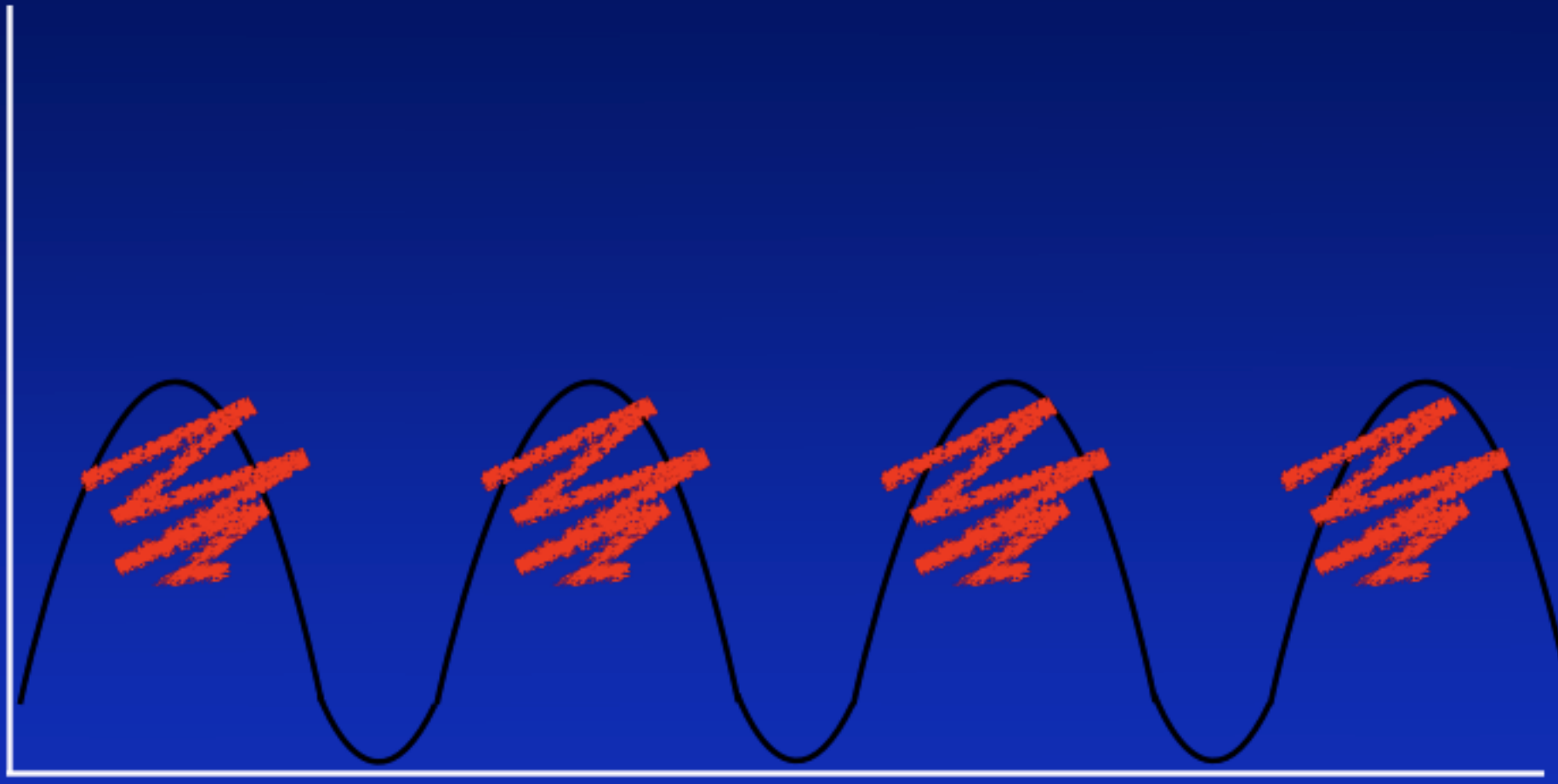
- *I can´t* **cure** *your child´s eczema …*
- *but we can* **control** *it very effectively*

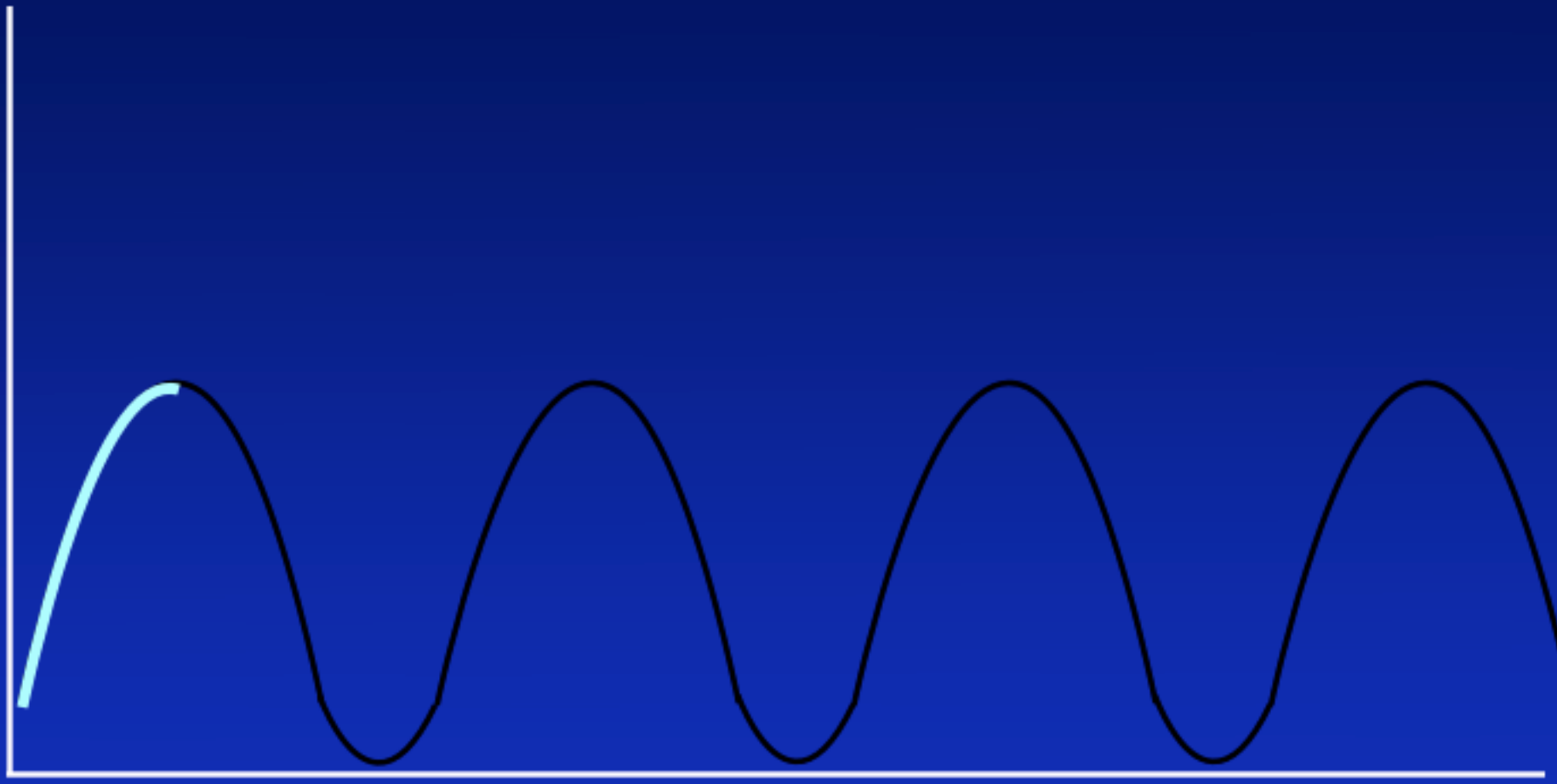


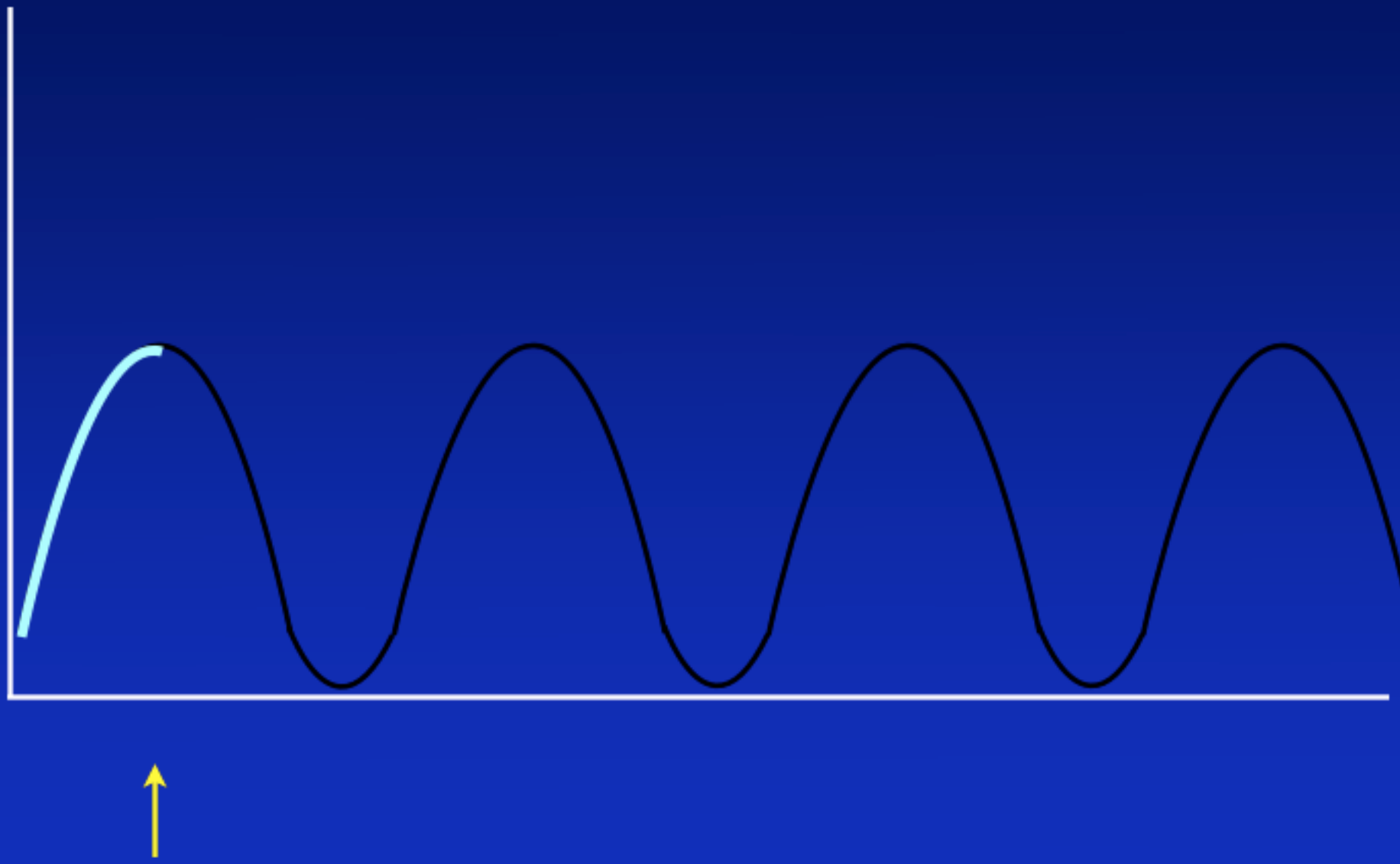


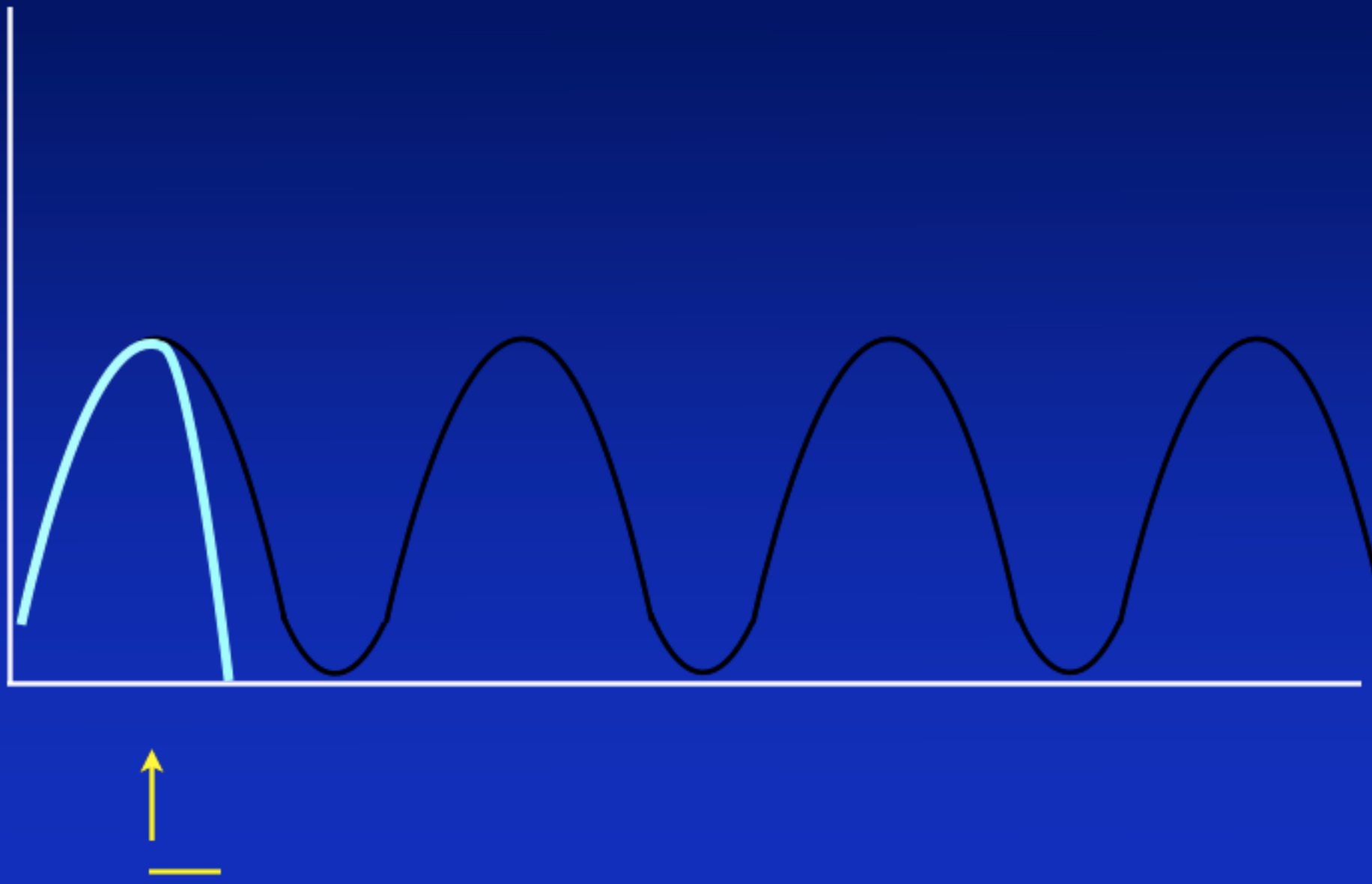


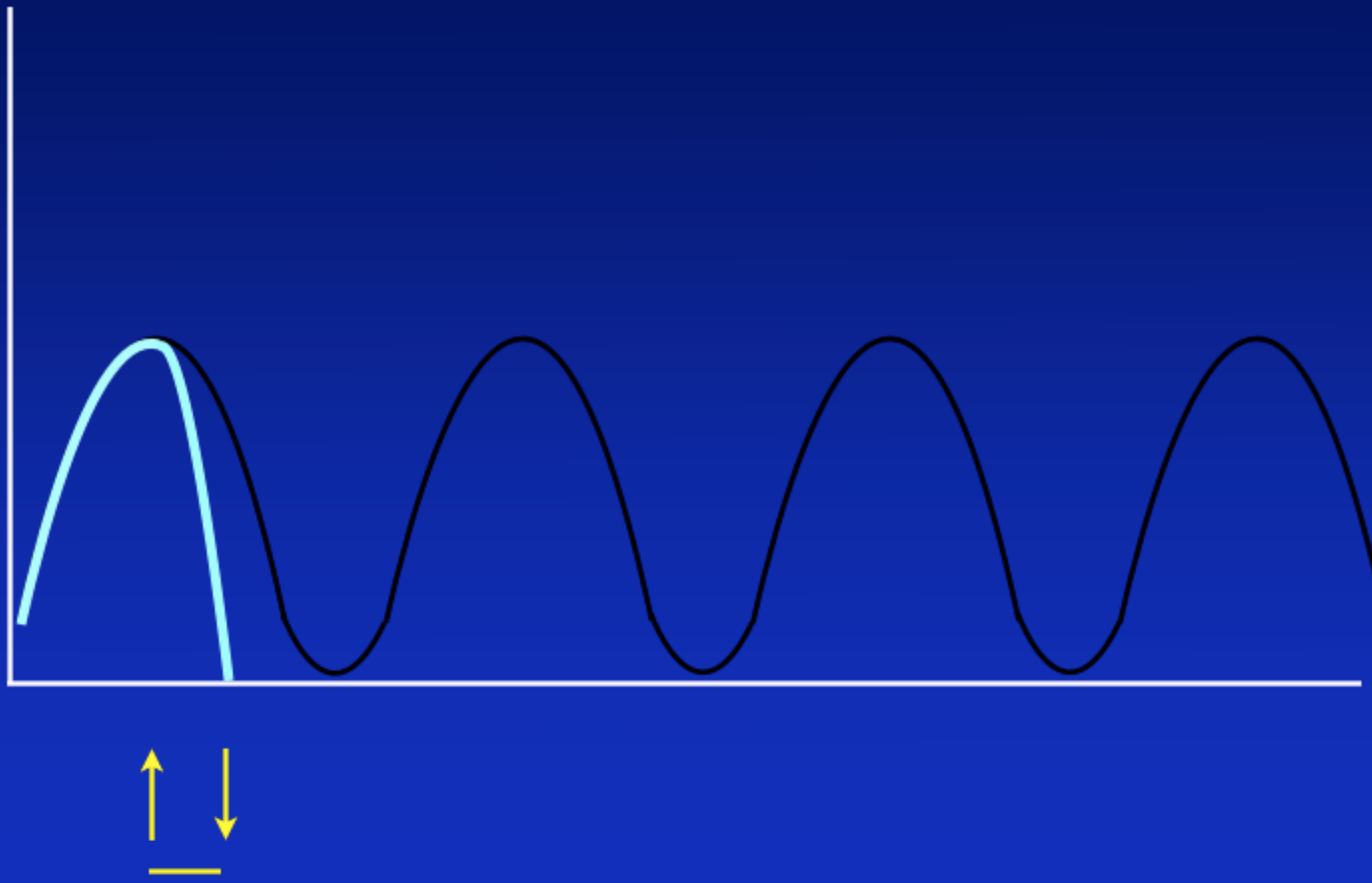


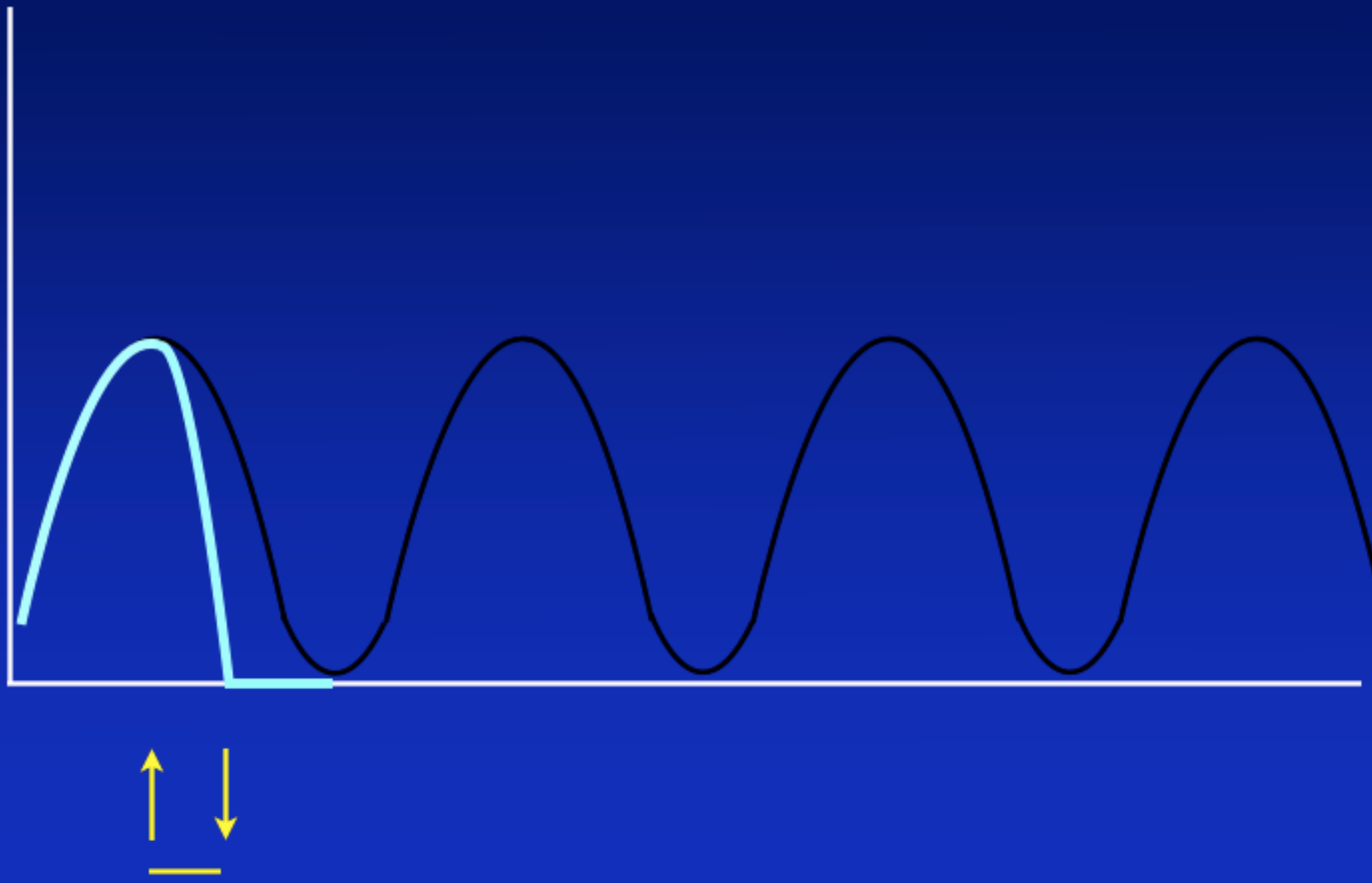


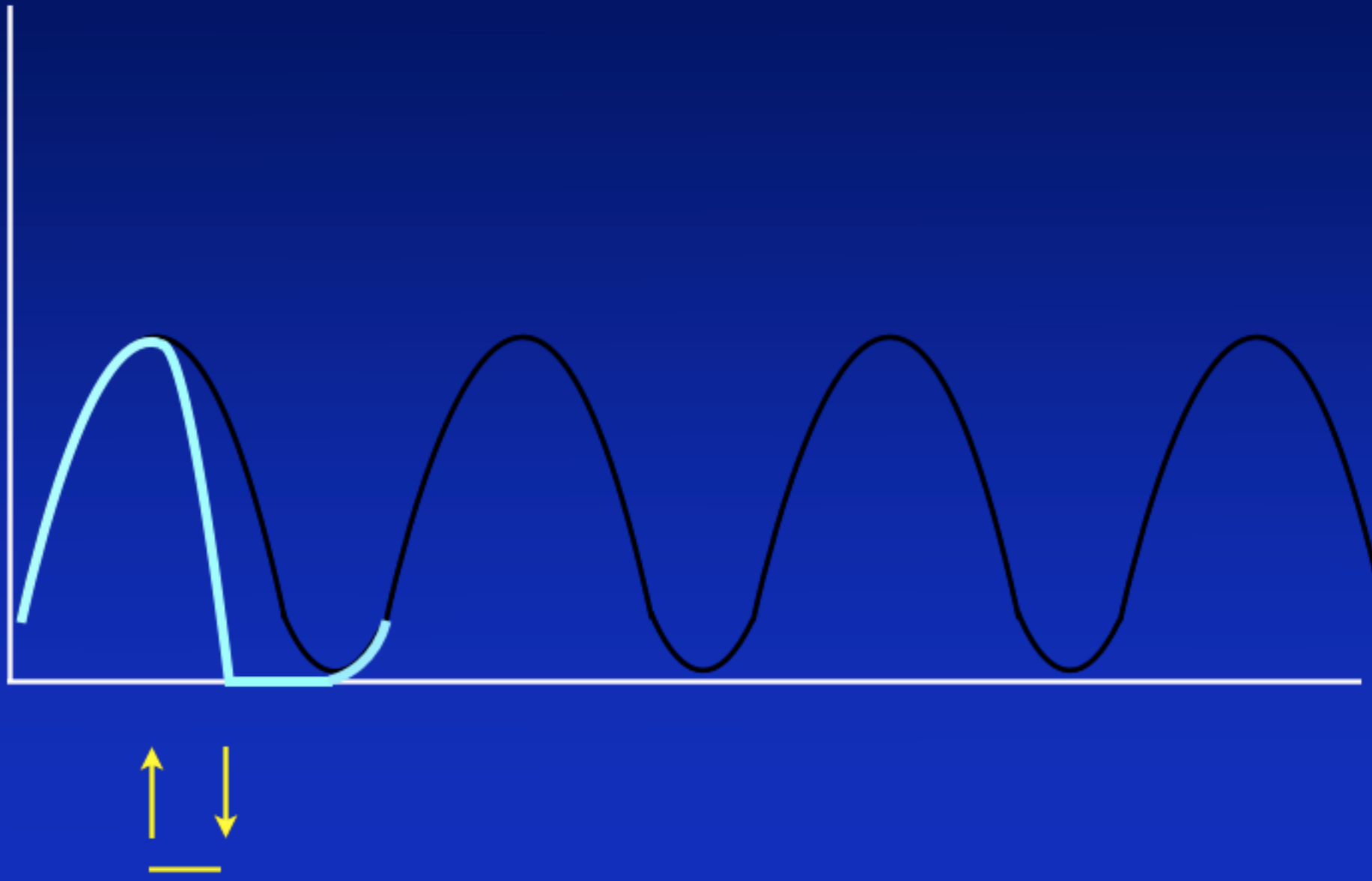


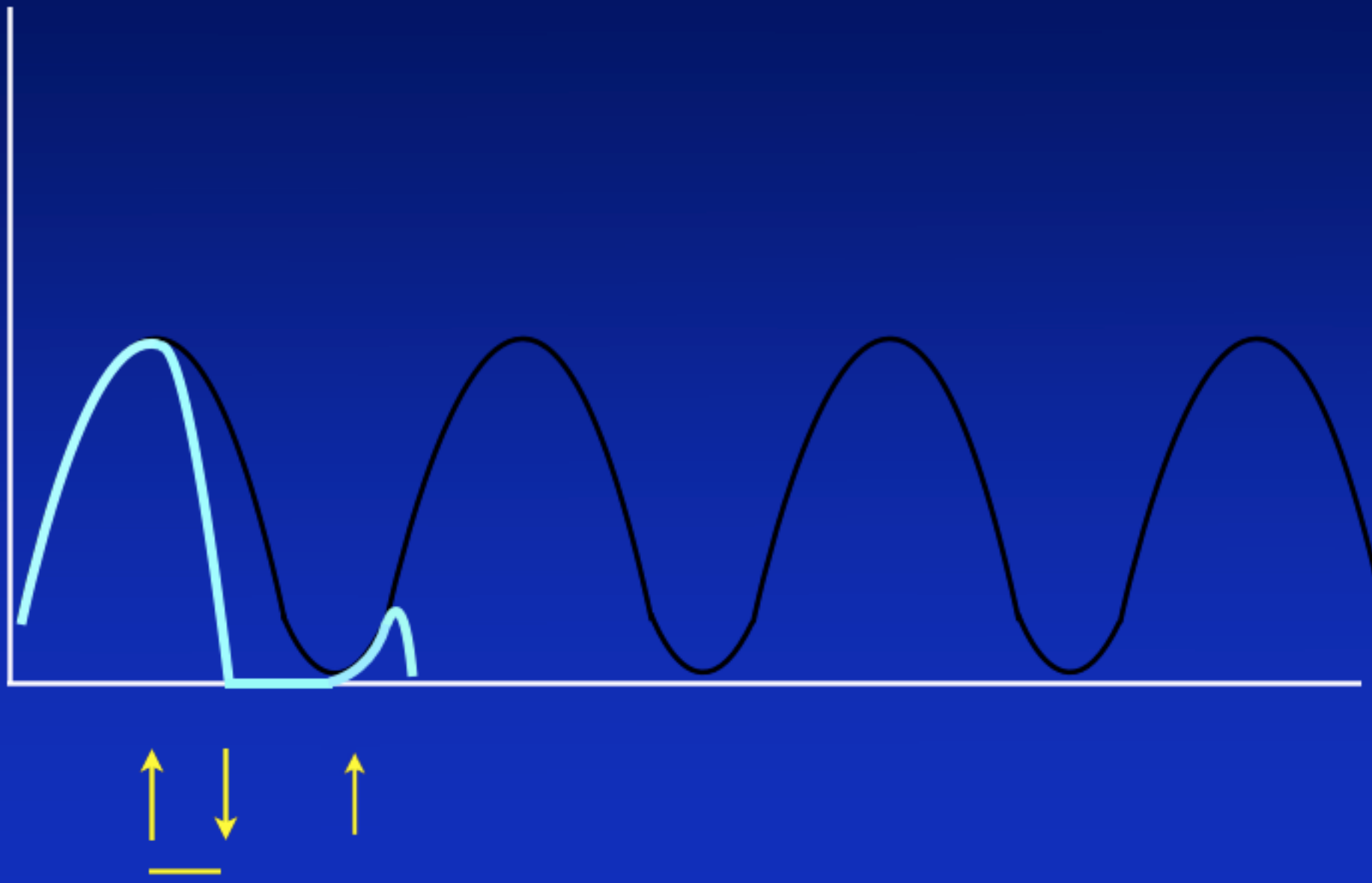


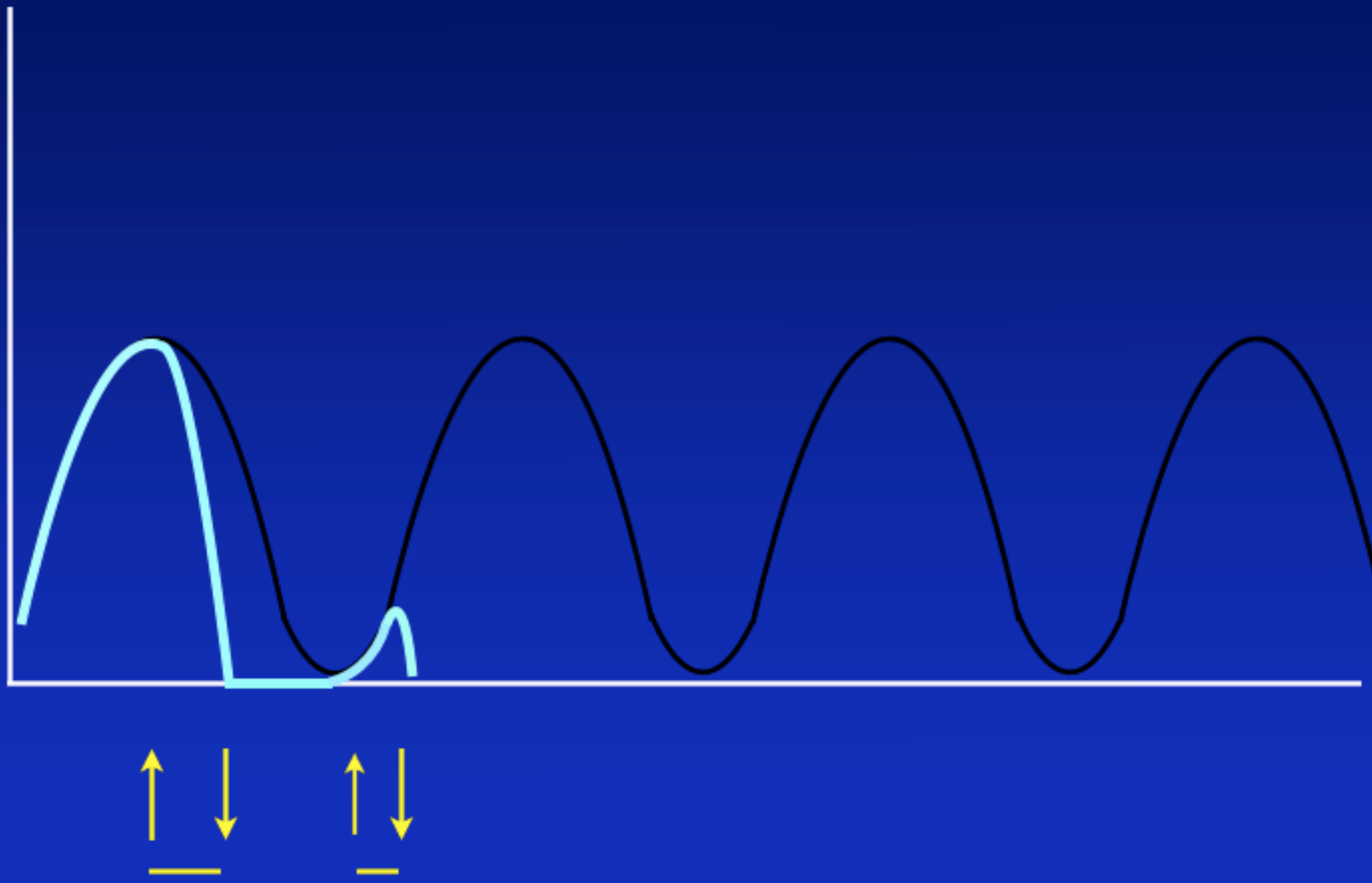


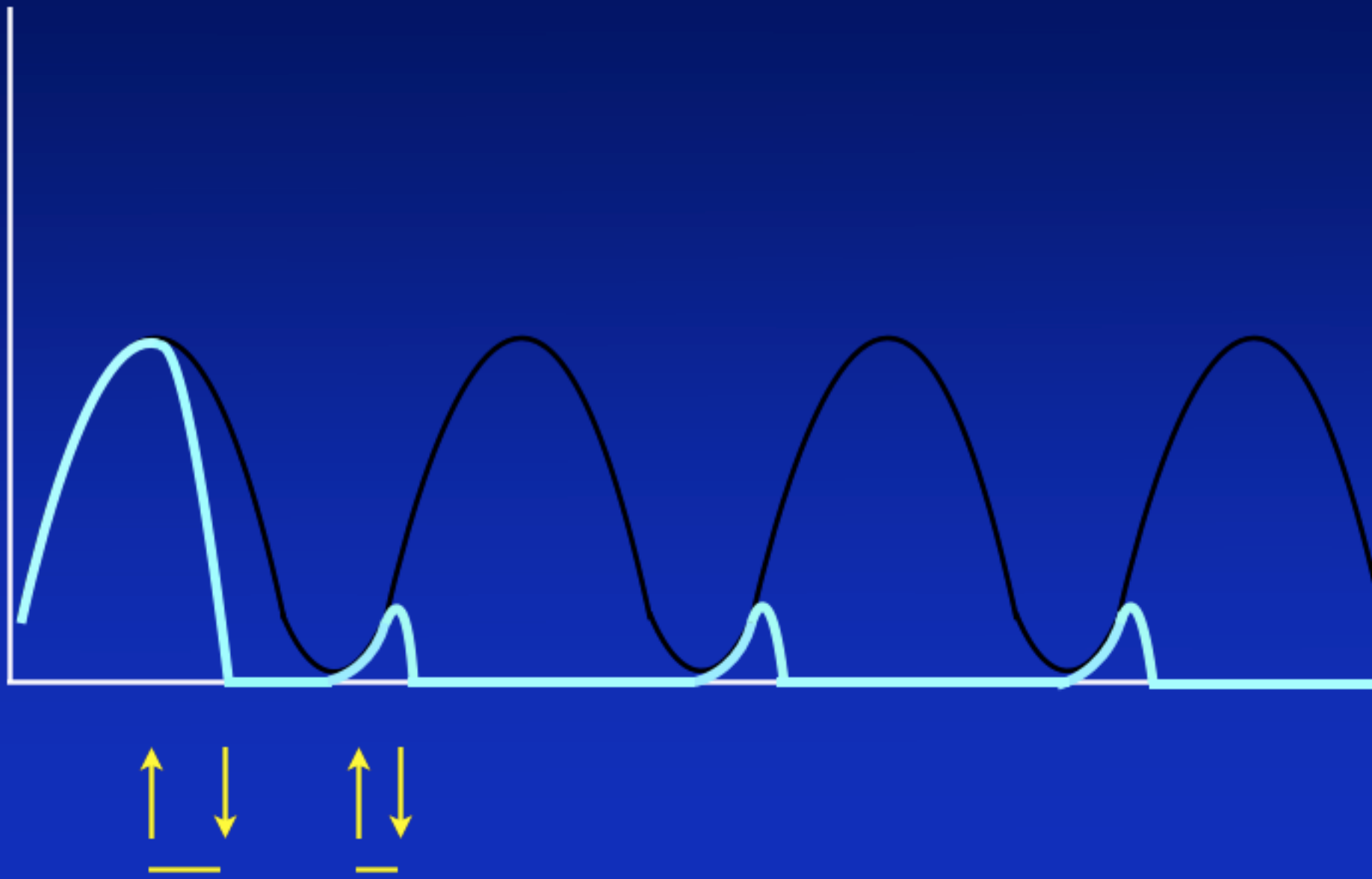












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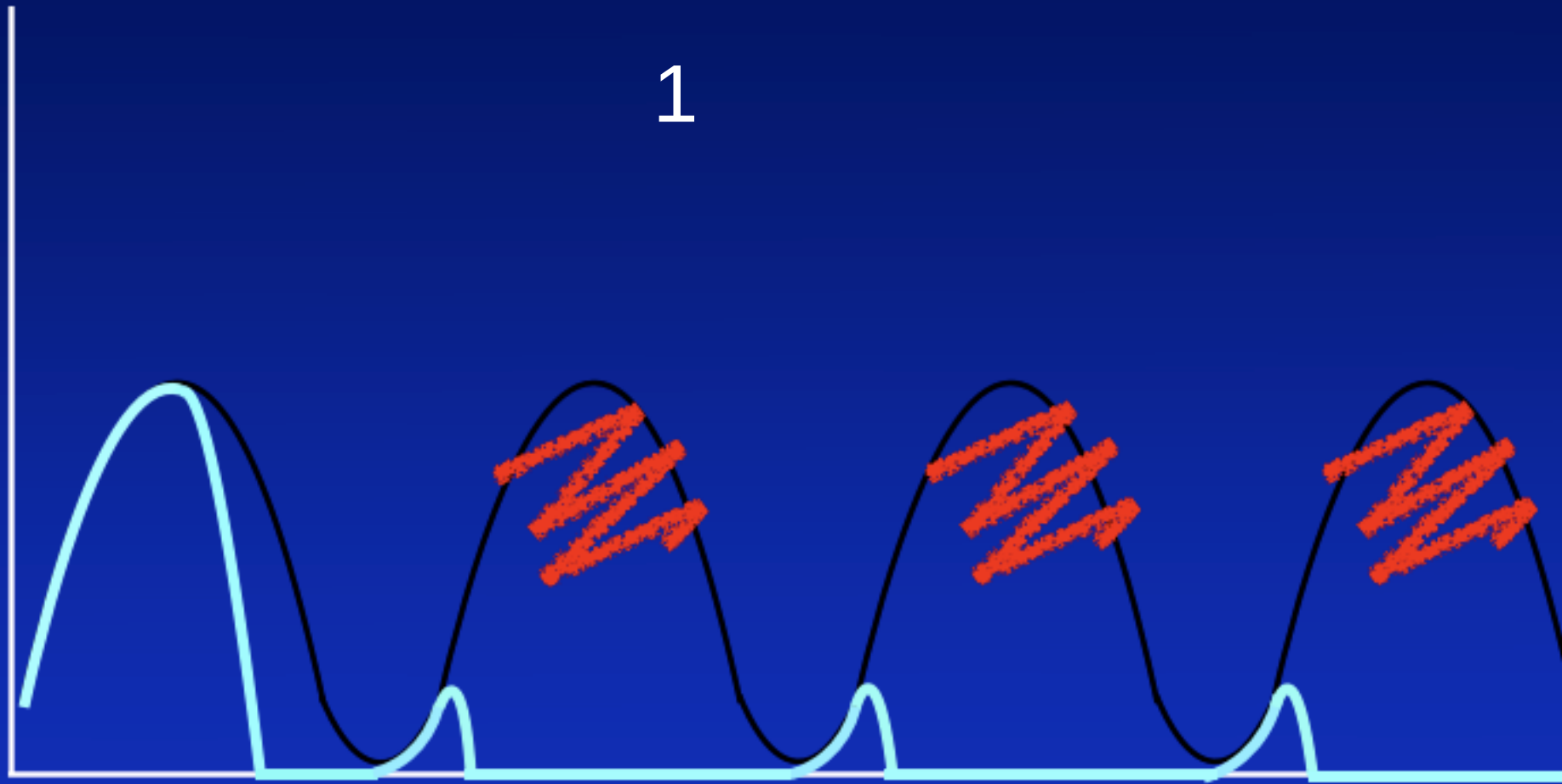

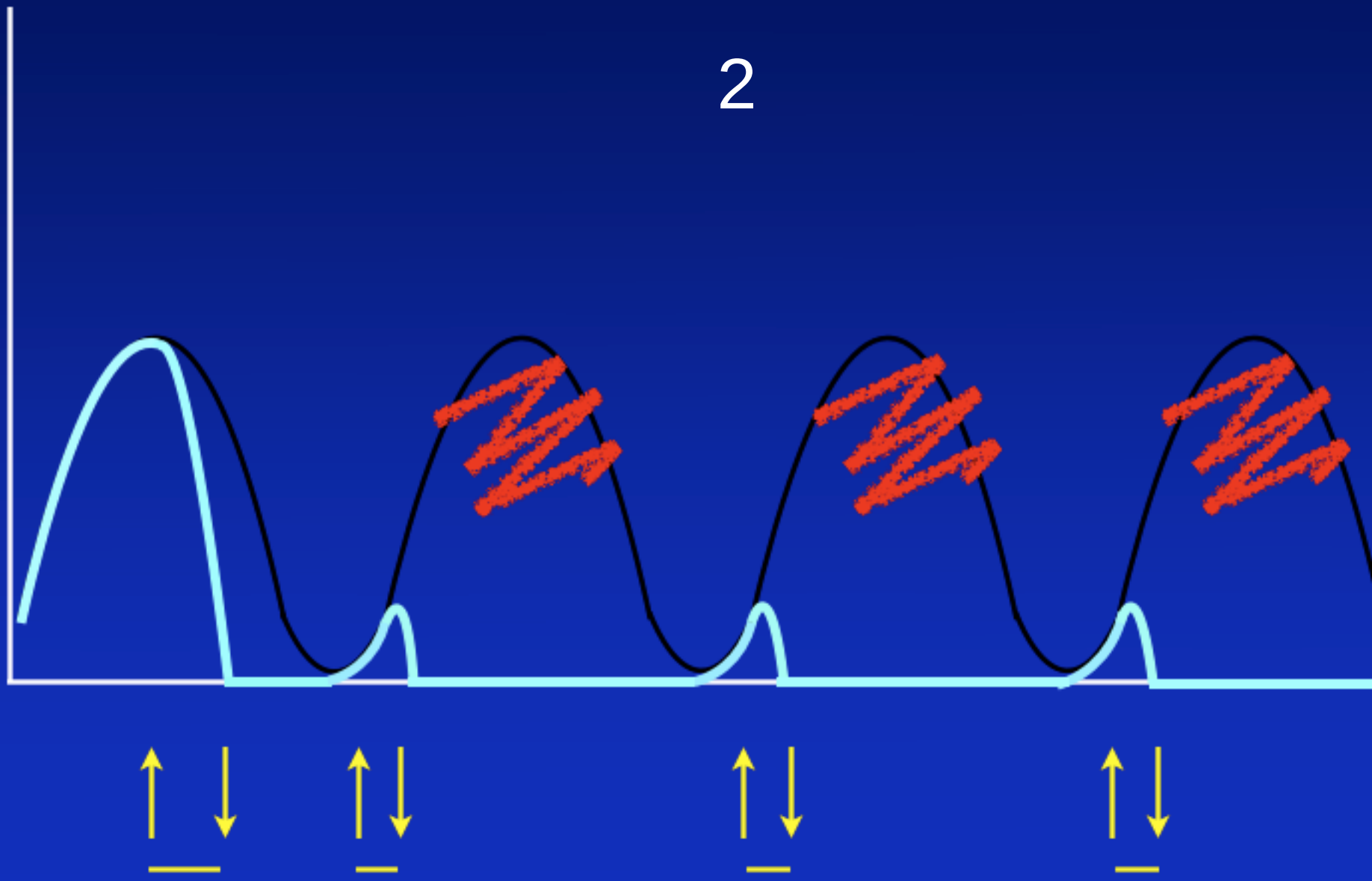
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Set realistic expectations

- Dispels the myth that “you use the cream and the eczema is gone forever”
- “Make it seem as if you child does not have eczema”

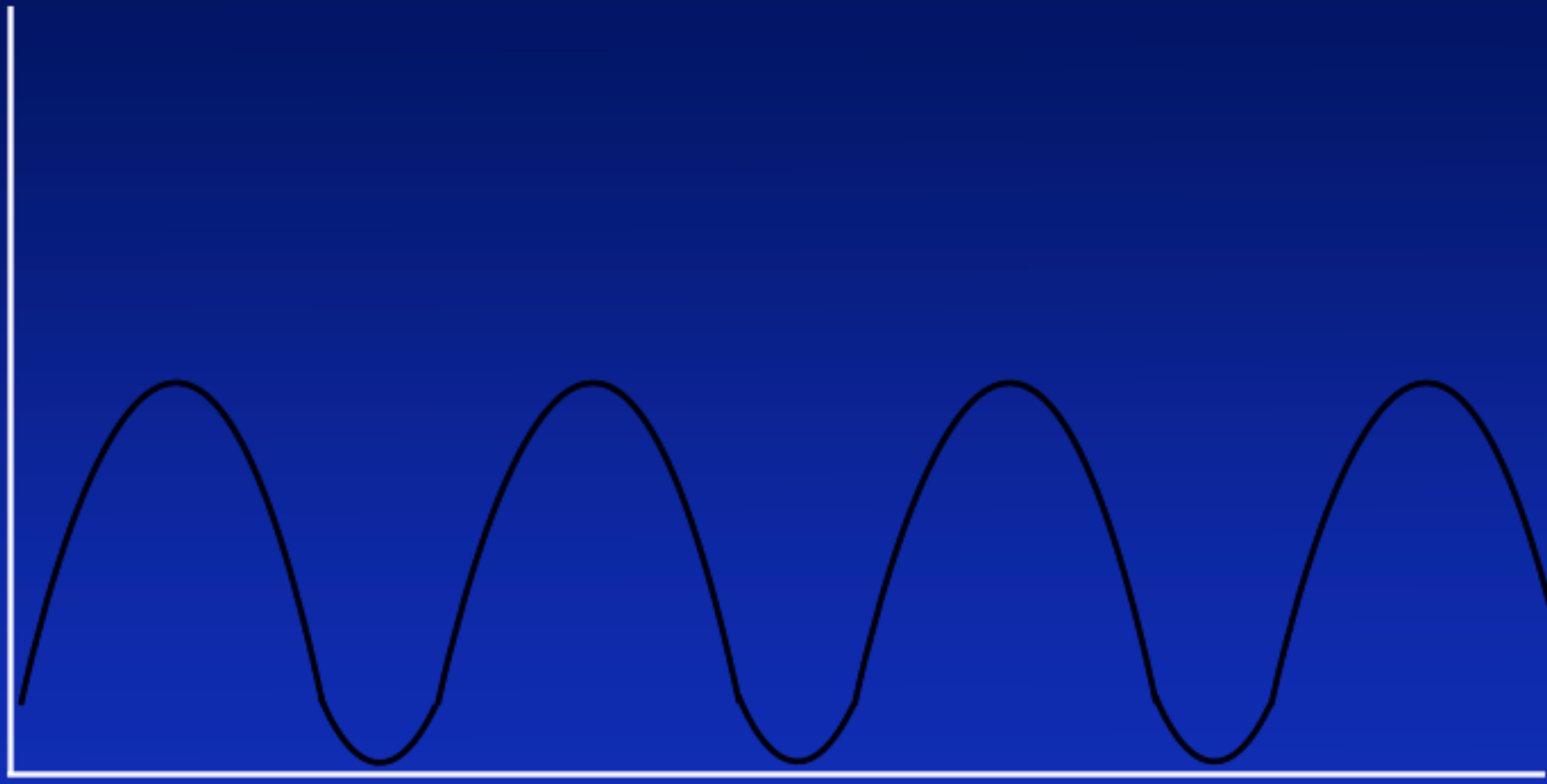
You can do it. We can help.SM

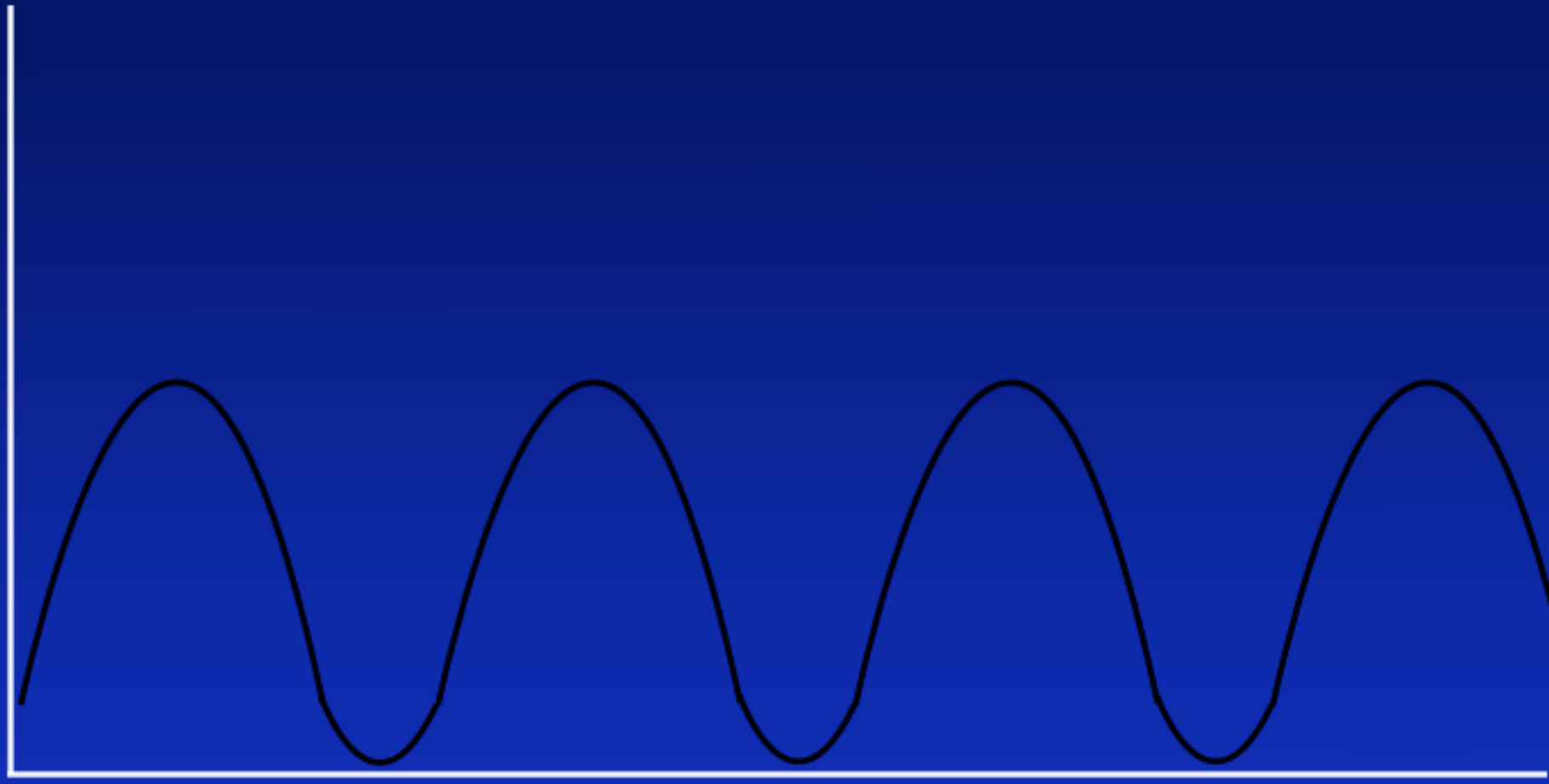
Tip #3: It's (probably) not the food

No role for empiric food avoidance

How food can worsen eczema

- Irritant contact dermatitis
- Food causes hives -> makes patient itchy
- Non-IgE mediated true exacerbation of eczema (very rare)





Allergy 2009: 64: 258–264

DOI: 10.1111/j.1398-9995.2008.019

Review article

Dietary exclusions for improving established atopic eczema in adults and children: systematic review

Atopic eczema is the most common inflammatory skin disease of childhood in developed countries. We performed a systematic review of randomized controlled trials to assess the effects of dietary exclusions for the treatment of established atopic eczema. Nine trials (421 participants) were included, most of which were poorly reported. Six were studies of egg and milk exclusion (n = 288), one was a study of few foods (n = 85) and two were studies of an elemental diet (n = 48). There appears to be no benefit of an egg- and milk-free diet in unselected participants with atopic eczema. There is also no evidence of benefit in the use of an elemental or few-foods diet in unselected cases of atopic eczema. There may be some benefit in using an egg-free diet in infants with suspected egg allergy who have positive specific IgE to eggs – one study found 51% of the children had a significant improvement in body surface area with the exclusion diet as compared with normal diet (95% CI 1.07–2.11) and change in surface area and severity score was significantly improved in the exclusion diet as compared with the normal diet at the end of 6 weeks (MD 5.50, 95% CI 0.19–10.81) and end of treatment (MD 6.10, 95% CI 0.06–12.14). Despite their frequent use, we find little good quality evidence to support the use of exclusion diets in atopic eczema.

F. Bath-Hextall[1], F. M. De
H. C. Williams[3]
[1]Faculty of Medicine and Health S
University of Nottingham, Nottingh
of Evidence-Based Dermatology, U
Nottingham, Nottingham, UK; [3]Dep
Dermatology, University of Nottingh
Nottingham, UK

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F. Bath-Hextall
Faculty of Medicine and Health Sc
University of Nottingham
Nottingham
UK

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[1]Faculty of Medicine and Health S
University of Nottingham, Nottingh
of Evidence-Based Dermatology, U
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F. Bath-Hextall
Faculty of Medicine and Health Sc
University of Nottingham
Nottingham
UK

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The Role of Elimination Diets in Atopic Dermatitis—A Comprehensive Review

Neil R. Lim, B.A.,* Mary E. Lohman, B.A.,* and Peter A. Lio, M.D.

Department of Dermatology, Feinberg School of Medicine, Northwestern University, Chicago, Illinois

Abstract

Background/Objectives: Diet is a common concern for individuals with atopic dermatitis (AD) and their families. Studies regarding the effect of dietary interventions on AD exist, but many are limited by small size and poor design. Conflicting results present a challenge to clinicians seeking to counsel patients. The aim of the current review is to examine the published literature and generate helpful conclusions for clinicians faced with dietary questions in AD.

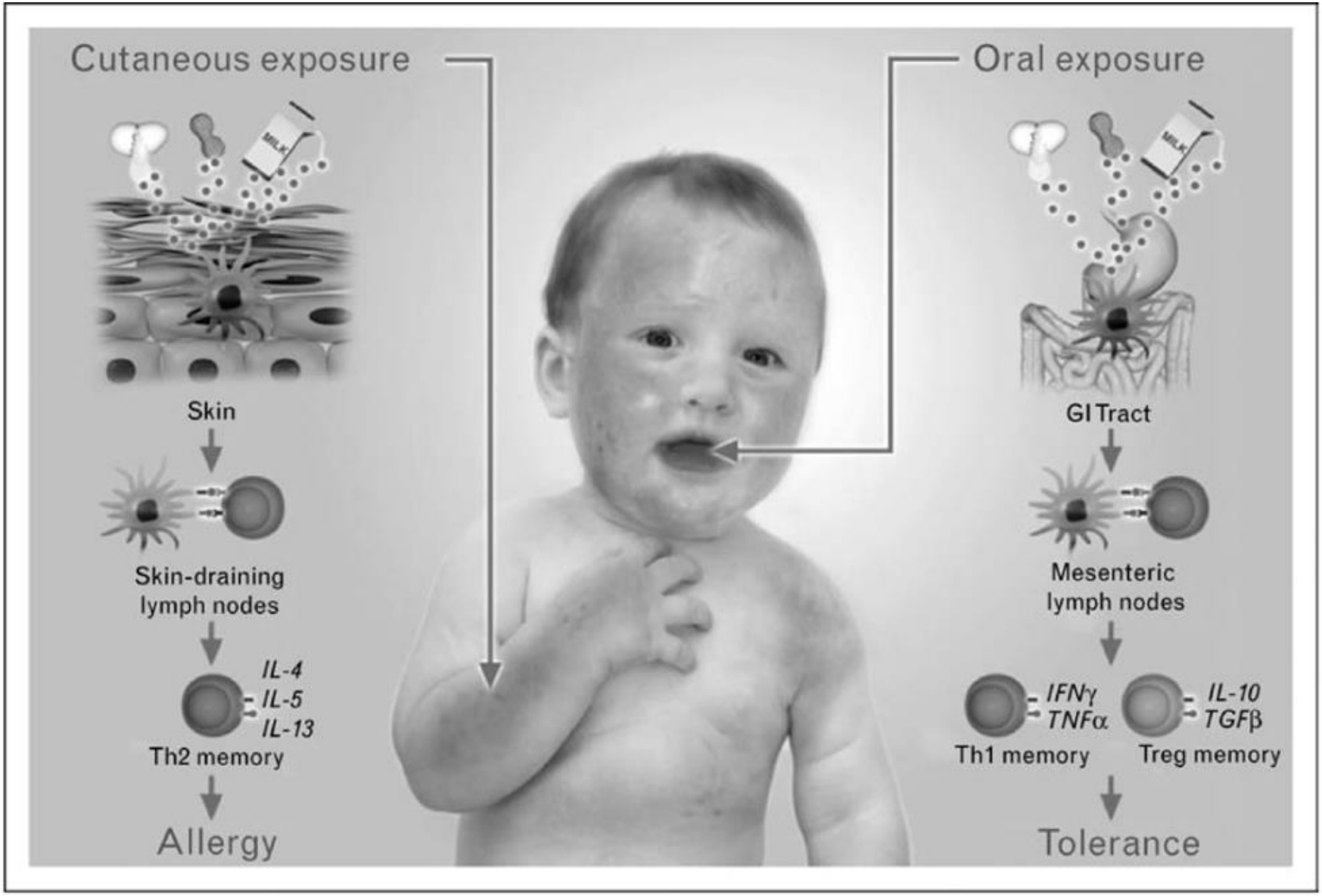
Methods: A PubMed search was performed focusing on dietary interventions for AD in children and adults through July 2016. The search was limited to the English language and included studies that evaluated one or more forms of dietary modification for the treatment of AD. Studies of supplementation, such as with vitamins, minerals, or probiotics, were not included, nor were studies on prevention of the development of AD. A total of 43 articles met the inclusion criteria and were included in the final analysis.

Results: Trials varied in type, duration, and the AD patient populations studied. Overall, there is some level I evidence to support specific exclusion diets in preselected patients but insufficient evidence for strict elimination diets (diets that are typically limited to six to eight foods). Data supporting other interventions are mixed and based on small, poorly designed studies.

Conclusions: A comprehensive literature review reveals some promising results and several areas in need of further study. More evidence is needed to form a strong foundation for recommendations regarding the utility and role of elimination diets in AD management, but current evidence suggests that strict diet management is not effective in the treatment AD in the vast majority of patients.

Concerns

- Unnecessarily limit food
- Protein/ calorie malnutrition
- May jeopardize tolerance



(Reprinted from J Allergy Clin Immunol 121, Lack G. Epidemiologic risks for food allergy, 1331–1336, 2008, with permission from Elsevier)

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 FEBRUARY 26, 2015 VOL. 372 NO. 9

Randomized Trial of Peanut Consumption in Infants at Risk for Peanut Allergy

George Du Toit, M.B., B.Ch., Graham Roberts, D.M., Peter H. Sayre, M.D., Ph.D., Henry T. Bahnson, M.P.H., Suzana Radulovic, M.D., Alexandra F. Santos, M.D., Helen A. Brough, M.B., B.S., Deborah Phippard, Ph.D., Monica Basting, M.A., Mary Feeney, M.Sc., R.D., Victor Turcanu, M.D., Ph.D., Michelle L. Sever, M.S.P.H., Ph.D., Margarita Gomez Lorenzo, M.D., Marshall Plaut, M.D., and Gideon Lack, M.B., B.Ch., for the LEAP Study Team*

ABSTRACT

BACKGROUND

The prevalence of peanut allergy among children in Western countries has doubled in the past 10 years, and peanut allergy is becoming apparent in Africa and Asia. We evaluated strategies of peanut consumption and avoidance to determine which strategy is most effective in preventing the development of peanut allergy in infants at high risk for the allergy.

METHODS

We randomly assigned 640 infants with severe eczema, egg allergy, or both to consume or avoid peanuts until 60 months of age. Participants, who were at least 4 months but younger than 11 months of age at randomization, were assigned to separate study cohorts on the basis of preexisting sensitivity to peanut extract, which was determined with the use of a skin-prick test — one consisting of participants with no measurable wheal after testing and the other consisting of those with a wheal measuring 1 to 4 mm in diameter. The primary outcome, which was assessed independently in each cohort, was the proportion of participants with peanut allergy at

From the Department of Pediatric Allergy, Division of Asthma, Allergy and Lung Biology, King's College London and Guy's and St. Thomas' National Health Service Foundation Trust, London (G.D.T., S.R., A.F.S., H.A.B., M.B., M.F., V.T., G.L.), and the University of Southampton and National Institute for Health Research Respiratory Biomedical Research Unit, Southampton and David Hide Centre, Newport, Isle of Wight (G.R.) — both in the United Kingdom; the Division of Hematology–Oncology, Department of Medicine (P.H.S.), and the Immune Tolerance Network (D.P.), University of California, San Francisco, San Francisco; Rho Federal Systems Division, Chapel Hill, NC (H.T.B., M.L.S.); and the National Institute of Allergy and

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Among the 530 infants in the intention-to-treat population who initially had negative results on the skin-prick test, the prevalence of peanut allergy at 60 months of age was 13.7% in the avoidance group and 1.9% in the consumption group (P<0.001).

ABSTRACT

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How food can worsen eczema

- Urticaria as part of IgE mediated symptoms
  - Specific IgE testing or skin prick test
- Irritant contact dermatitis

- Non-IgE mediated exacerbation of eczema
  - Double Blind Placebo Controlled Food Challenge

October

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30 	31 	1 	2 
3	4	5 	6 	7 	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

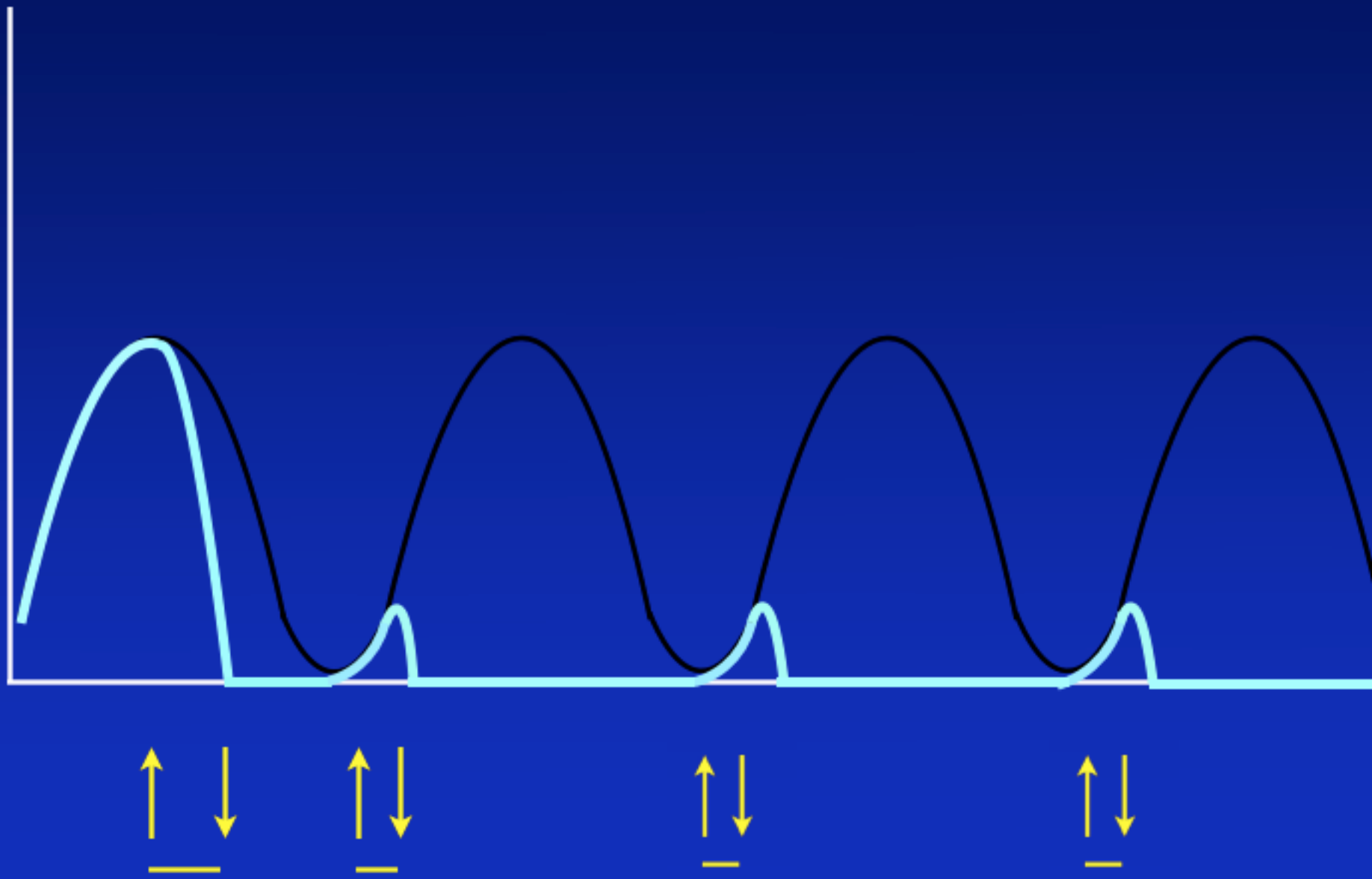
October

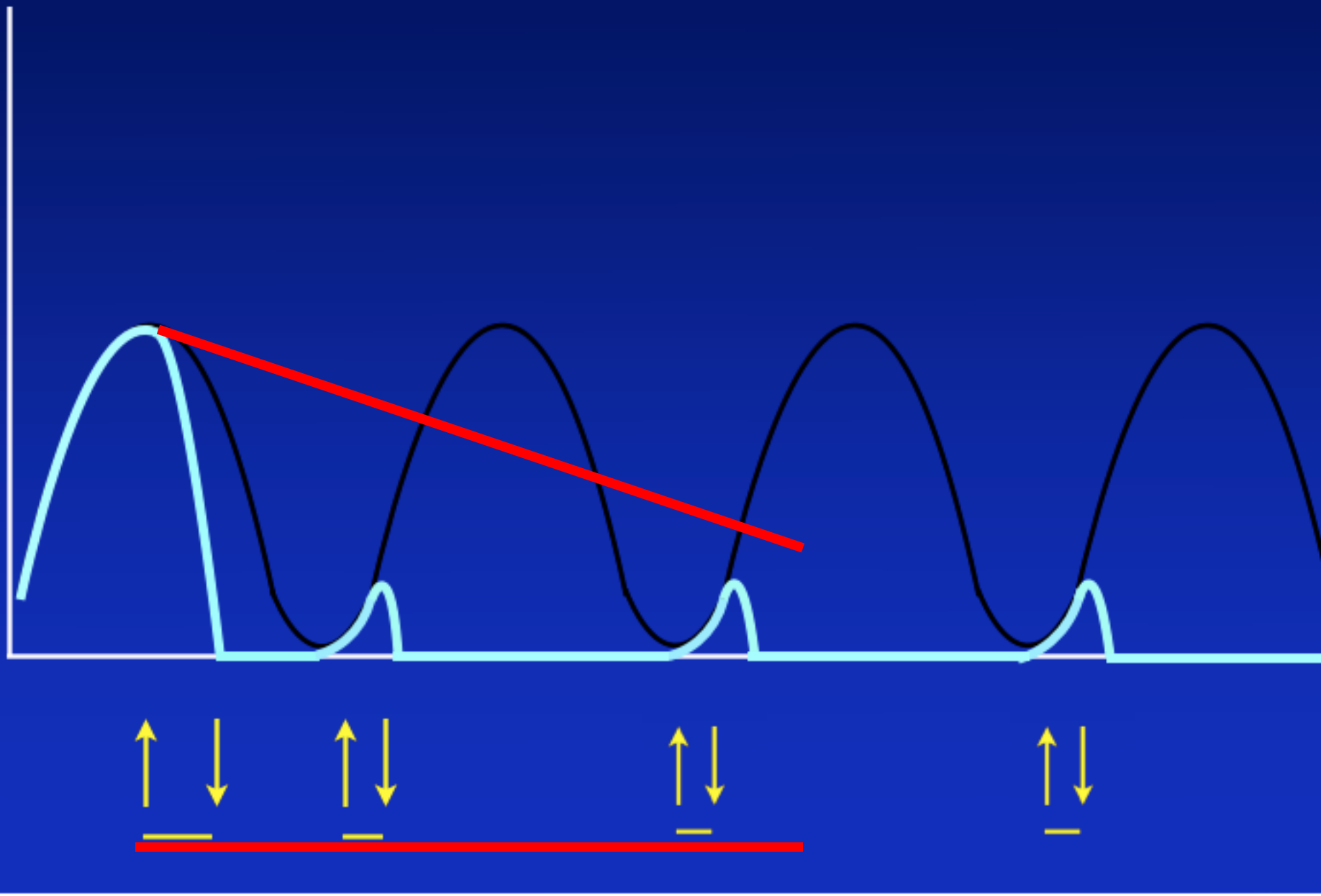
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1 	2 
3 	4	5	6	7	8	9 
10	11	12	13 	14	15	16 
17	18 	19	20	21	22	23 
24	25	26	27	28	29	30 

Tip #4:
Counter medication phobia

Proper use of topical medications

- Ideally pulse therapy
  - Analogy of putting out a fire





Proper use of topical steroids

- Ideally pulse therapy
  - Analogy of putting out a fire
- Immunize against the package insert
  - Not all steroids are created equally

WARNINGS AND PRECAUTIONS

General

Patients should be advised to inform subsequent physicians of the prior use of corticosteroids.

HYDROCORTISONE should not be used under occlusion due to increased risk of systemic exposure and infection. When used under occlusive dressing, over extensive areas, on the face, scalp, axillae, or scrotum, sufficient absorption may occur to result in adrenal suppression and other systemic effects (see WARNINGS AND PRECAUTIONS - Endocrine and Metabolism, Immune and Ophthalmologic)

Cardiovascular

Suitable precautions should be taken when using topical corticosteroids in patients with stasis dermatitis and other skin diseases associated with impaired circulation.

Use of corticosteroids around chronic leg ulcers may be associated with a higher occurrence of local hypersensitivity reactions and an increased risk of local infection.

Endocrine and Metabolism

Manifestations of hypercortisolism (Cushing's syndrome) and reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, leading to glucocorticosteroid insufficiency can occur in some individuals as a result of increased systemic absorption of topical corticosteroids. Hyperglycemia and glucosuria can also be produced in some patients by systemic absorption of topical corticosteroids (see ADVERSE REACTIONS).

Conditions which augment systemic absorption include the formulation and potency of the topical corticosteroid, the application of topical corticosteroids over large body surface areas, application to intertriginous areas (such as the axillae), frequency of application, prolonged use, or the use of occlusive dressings. Other risk factors for increased systemic effects include increasing hydration of the stratum corneum, use on thin skin areas (such as the face), and use on broken skin or in conditions where the skin barrier may be impaired.

https://pdf.hres.ca/dpd_pm/00041957.PDF accessed May 23, 2019

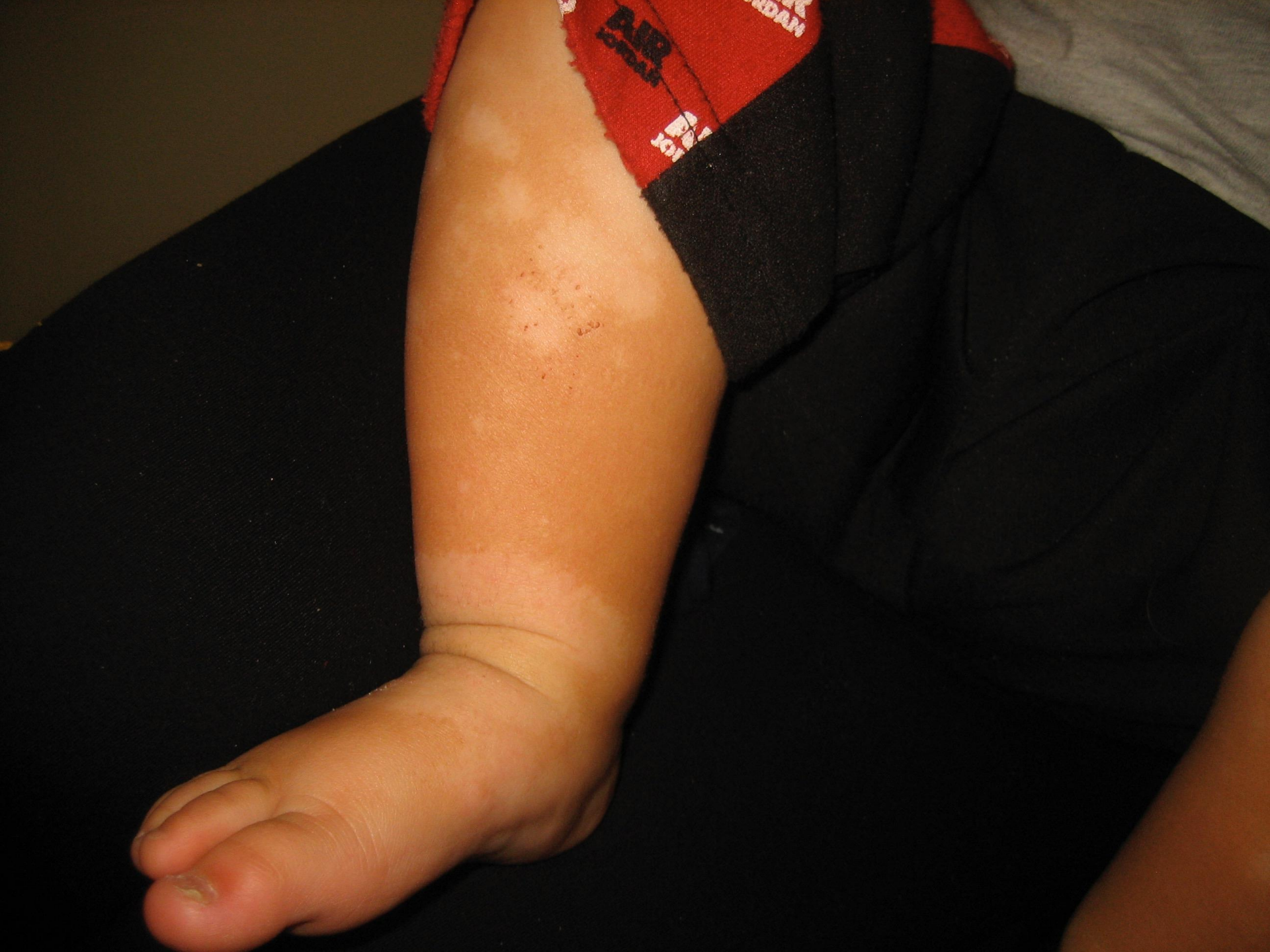

Class I
Espresso
Class VII
Decaf coffee

Proper use of topical steroids

- Ideally pulse therapy
  - Analogy of putting out a fire
- Immunize against the package insert
  - Not all steroids are created equally
- Educate about post-inflammatory hypopigmentation

A case of mistaken identity

Hypopigmentation vs atrophy



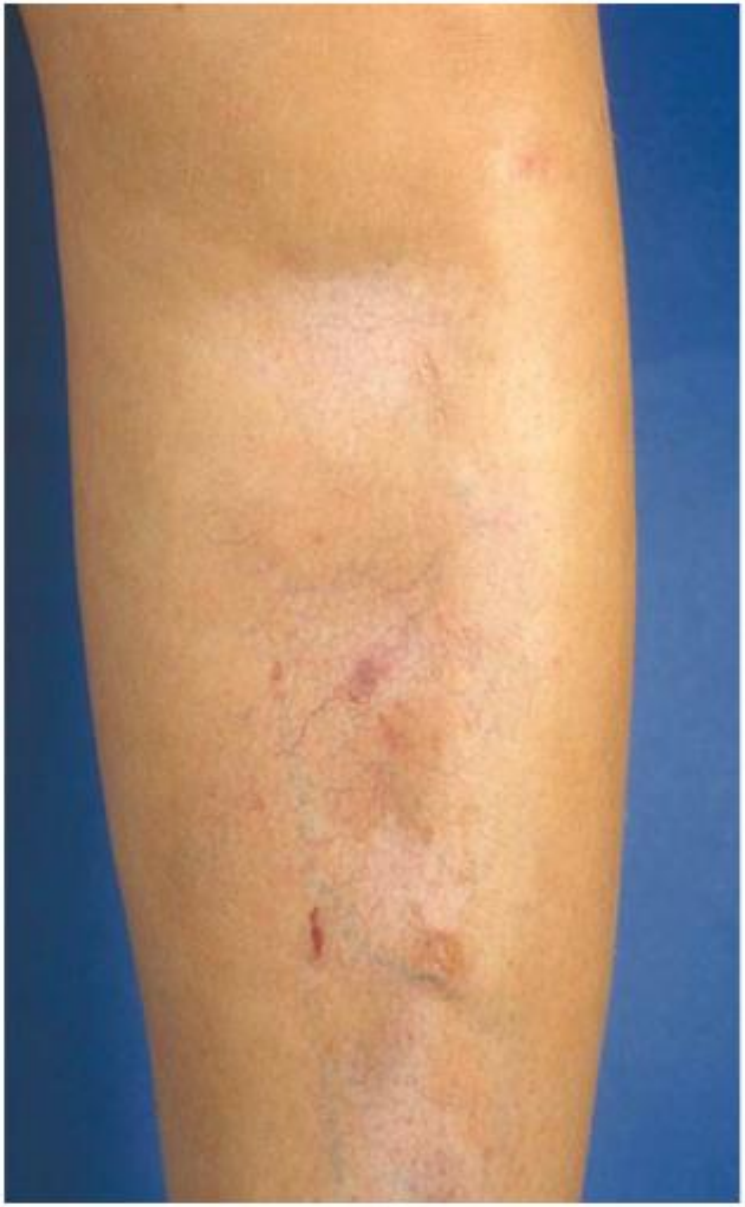
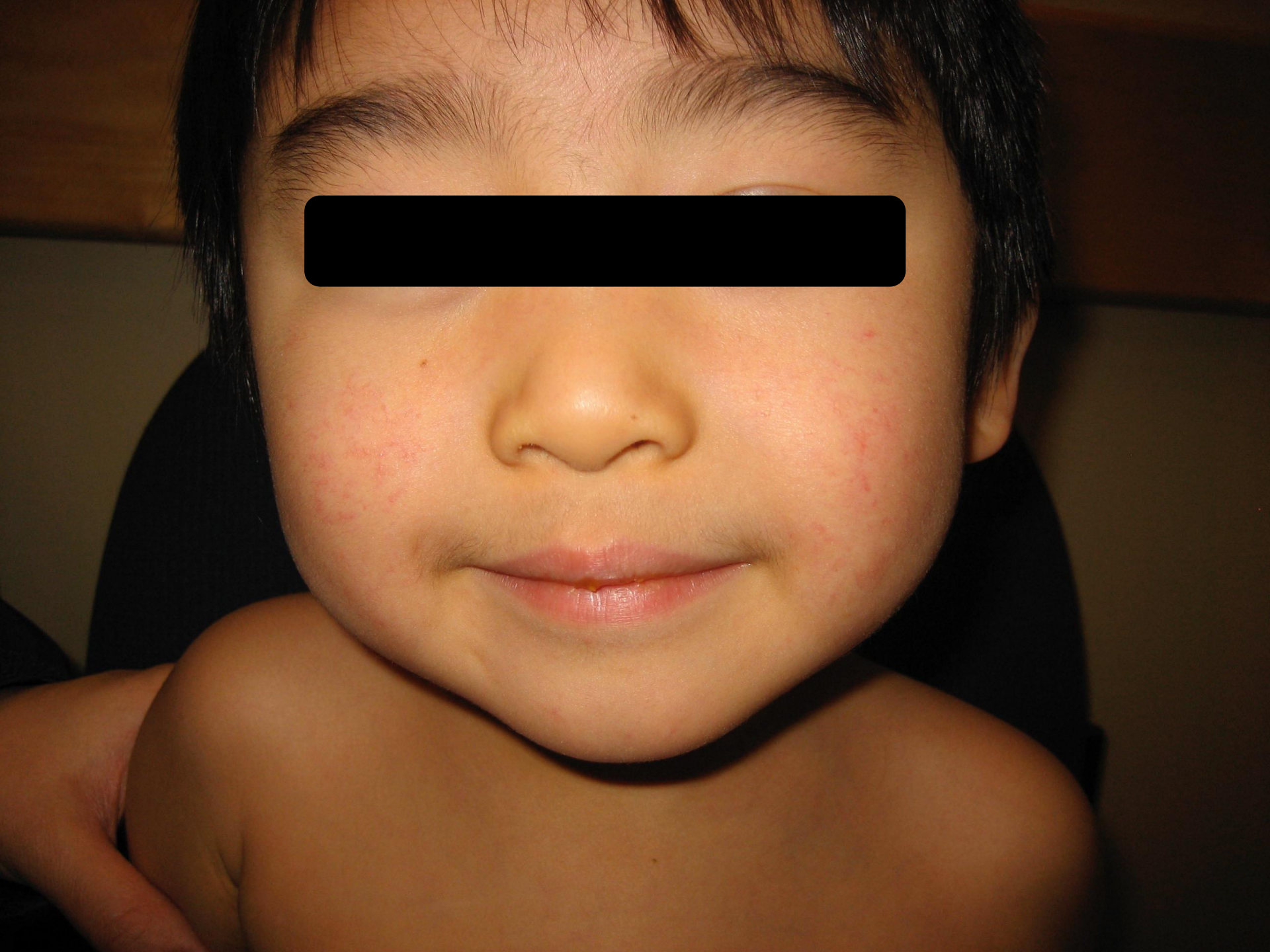
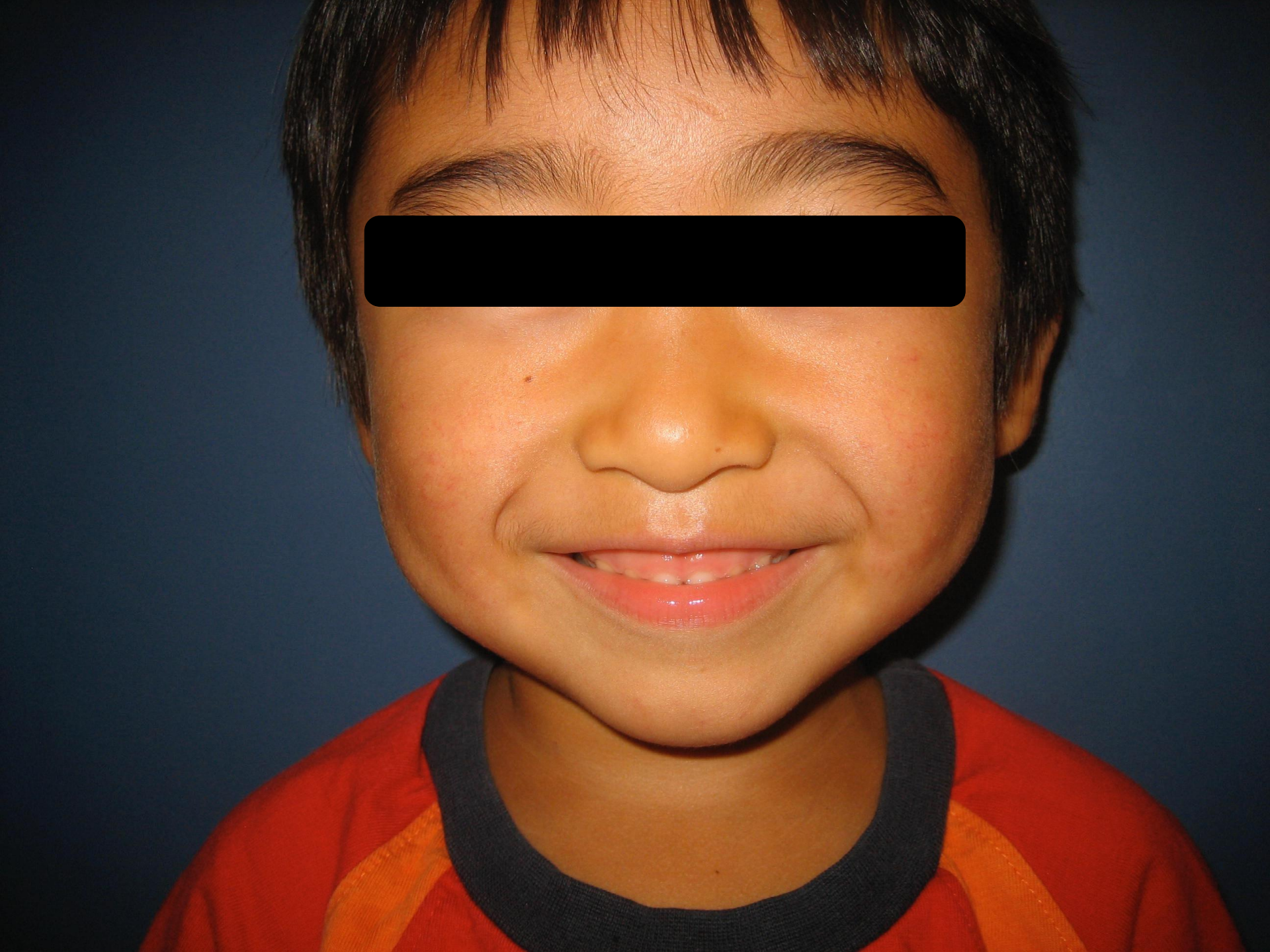


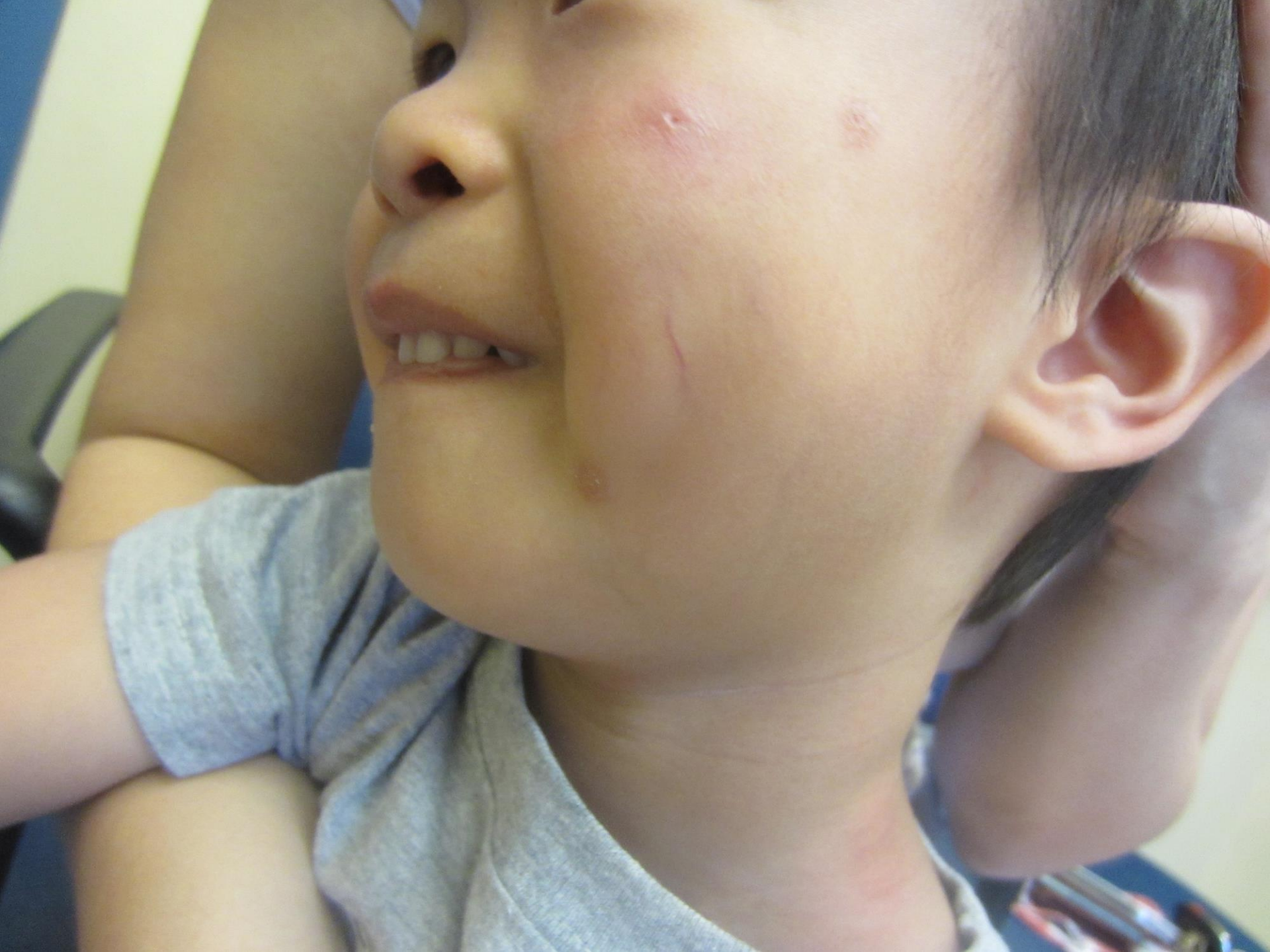
Fig 7. Hypopigmentation and hyperpigmentation due to easy bruising, as well as increased telangiectases and atrophy on the left forearm.

A case of mistaken identity

Cheek telangiectasia







A brief history of topical steroids

- First introduced to the dermatological world in 1952
  - One of the most important milestones in dermatology therapy
  - Potent anti-inflammatory and antiproliferative effects

Sulzberger MB, Witten VH. Effect of topically applied compound F in selected dermatoses. J Invest Dermatol 1952; 19:101-2.

A brief history of topical steroids

- First introduced to the dermatological world in 1952
  - One of the most important milestones in dermatology therapy
  - Potent anti-inflammatory and antiproliferative effects
- First reports of adverse effects emerged in 1955

Epslein. N, et al. Alrophic striae in patienls with inguinal intertrigo. Arch. Dermatol. 87:450. 1963

A brief history of topical steroids

- First introduced to the dermatological world in 1952
  - One of the most important milestones in dermatology therapy
  - Potent anti-inflammatory and antiproliferative effects
- First reports of adverse effects emerged in 1955
- Children are at potential increased risk of side-effects

Smith EW. Do we need new and different glucocorticoids? A re-appraisal of the various congeners and potential alternatives. Curr Probl Dermatol 1993;21:1-10.

Kids are not little adults

- May be more prone to systemic effects of topical medications
- Higher ratio of body surface area to weight

… but adults and kids are similar in some ways

- Statistically similar skin components in adults and kids
  - Thickness of stratum corneum
  - Structural components of keratin and lipids

Fairley JA, Rasmussen JE. Comparison of stratum corneum thickness in children and adults. J Am Acad Dermatol 1983;8:652-4.

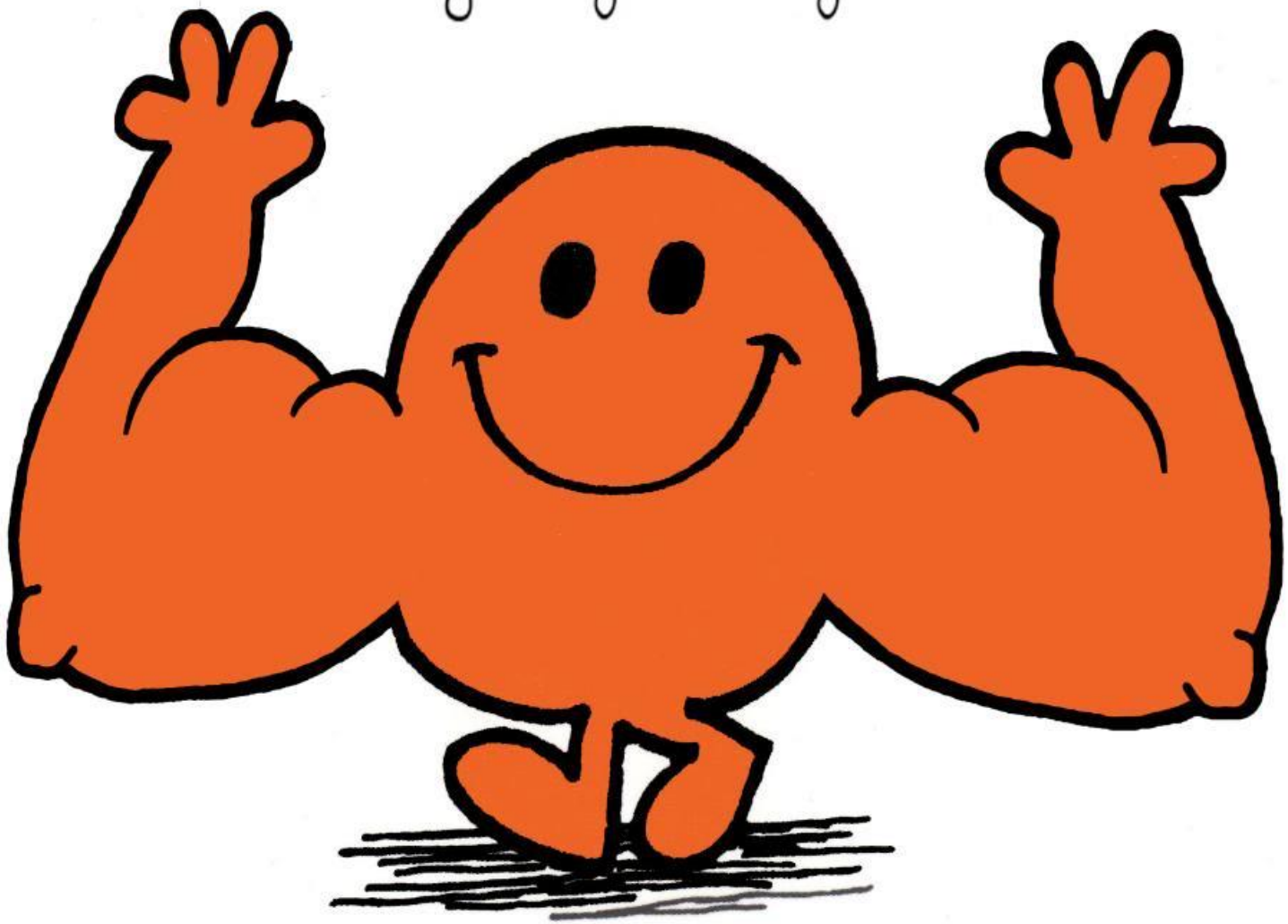
Risks of systemic absorption

- Higher theoretical risk in children
- Under normal conditions, most topical steroids are not absorbed
  - Up to 99% of applied topical corticosteroid is removed
    - Rubbing
    - Washing off
    - Exfoliation

Hengge U et al. J Am Acad Dermatol. 2006 Jan;54(1):1-15

MR. STEROID

by Roger Hangovers



The treatment for steroid phobia is education, not a change of medication

We have a range of topical options

TCS	TCIs	PDE4 Inhibitors
Very low/lowest potency (Class VII)	Tacrolimus	Crisaborole
↓	Pimecrolimus	
Very high potency (Class I)		

Journal of Cutaneous Medicine and Surgery
2019, Vol. 23(3S) 3S–13S

DOI: 10.1177/1203475419843108
journals.sagepub.com/home/jcms

Clinical Insights About Topical Treatment of Mild-to-Moderate Pediatric and Adult Atopic Dermatitis

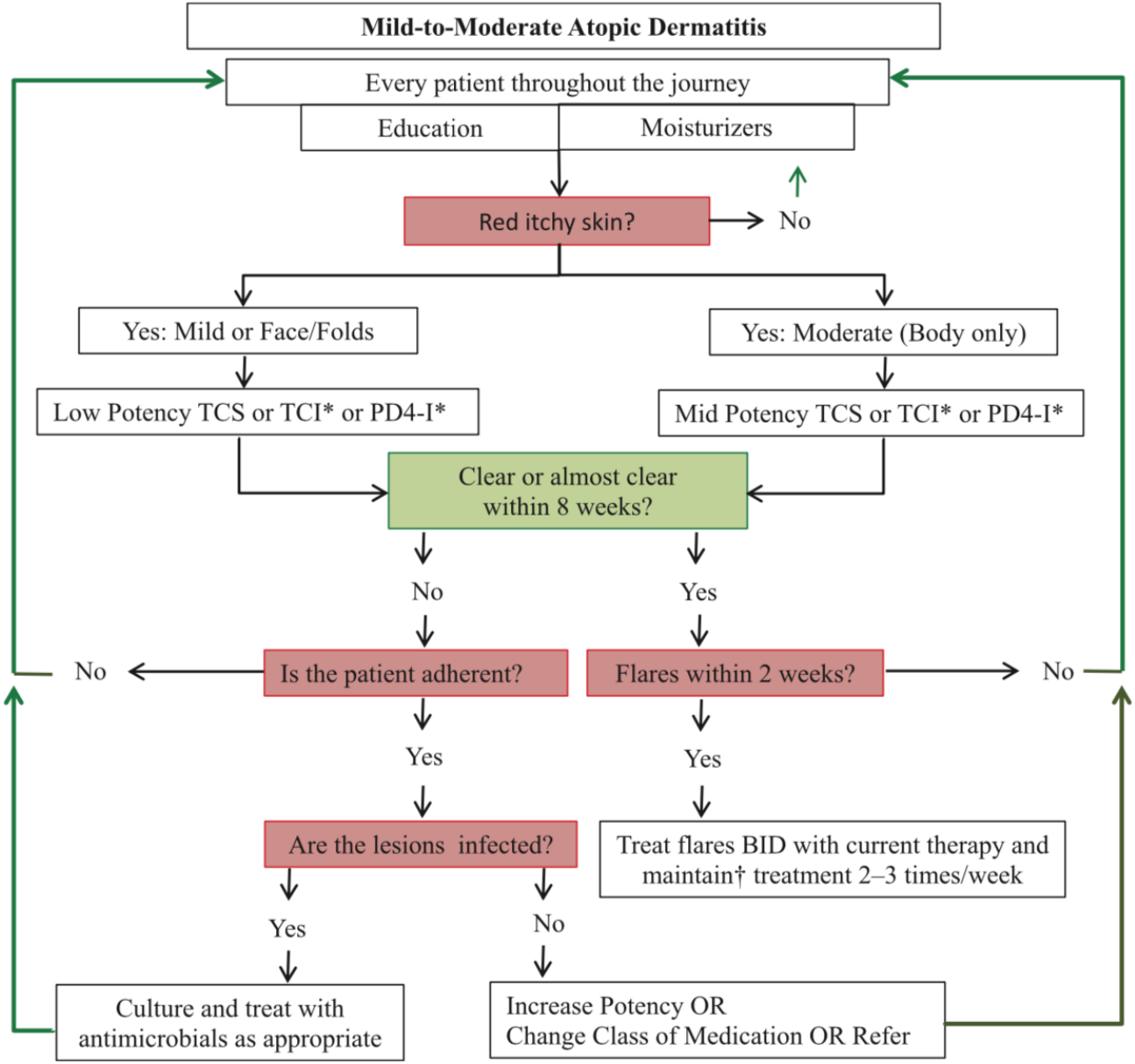
Charles W. Lynde[1], James Bergman[2], Loretta Fiorillo[3], Lyn Guenther[4], Jill Keddy-Grant[5], Ian Landells[6], Danielle Marcoux[7], Michele Ramien[8], and Wingfield Rehmus[9]

Abstract

Atopic dermatitis (AD) is a chronic inflammatory skin condition, also referred to as atopic eczema, that is identified by itching and recurrent eczematous lesions. It often starts in infancy where it affects up to 20% of children but is also highly prevalent in adults. AD inflicts a significant psychosocial burden on patients and their families and increases the risk of other immune-mediated inflammatory conditions, such as asthma and allergic rhinitis, food allergy, and mental health disorders. It is a lifelong condition associated with epidermal barrier dysfunction and altered immune function. Through the use of emollients and anti-inflammatory agents, current prevention and treatment therapies attempt to restore epidermal barrier function. Acute flares are treated with topical corticosteroids. Topical calcineurin inhibitors (TCIs) and topical corticosteroids (TCSs) are used for proactive treatment to prevent remission. There remains a need and opportunity to improve AD care through future research directed toward an improved understanding of the heterogeneity of the disease and its subtypes, the role of autoimmunity in its pathogenesis, the mechanisms behind disease-associated itch and response to specific allergens, and the comparative effectiveness and safety of therapies.

Keywords

atopic dermatitis, atopic eczema, clinical guidelines



Lynde C et al. J Cutan Med Surg. 2019 May/Jun;23(3_suppl):3S-13S.

Tip #5: Prescribe an adequate amount of medication

Use is proportional to size of the tub/ tube

Rule of “thumb”

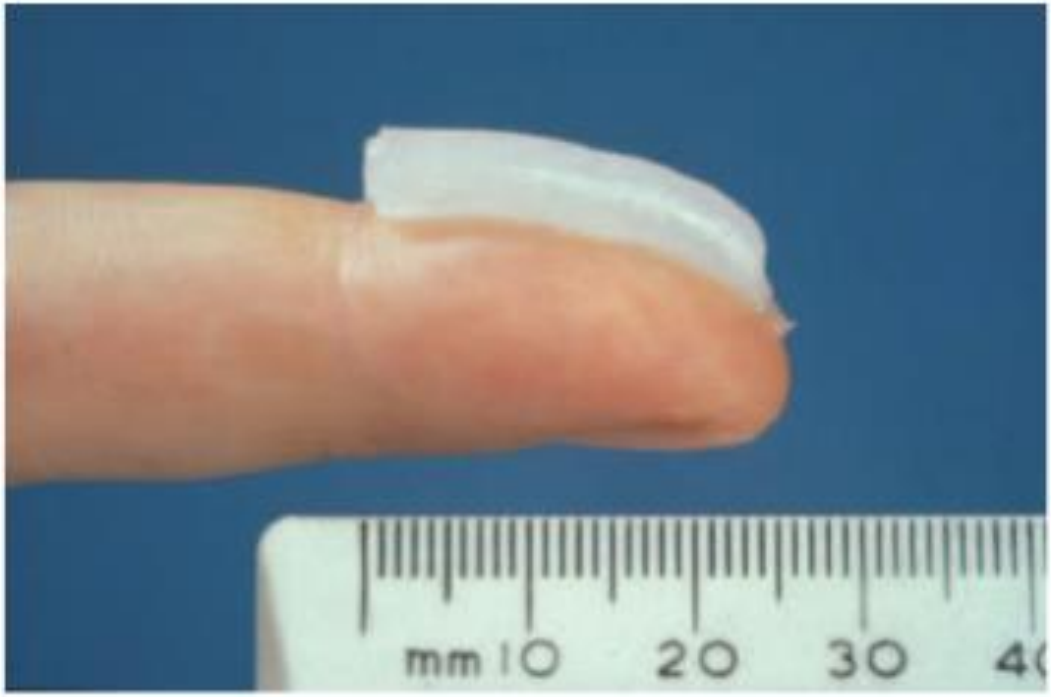


Figure 1. An adult fingertip unit.

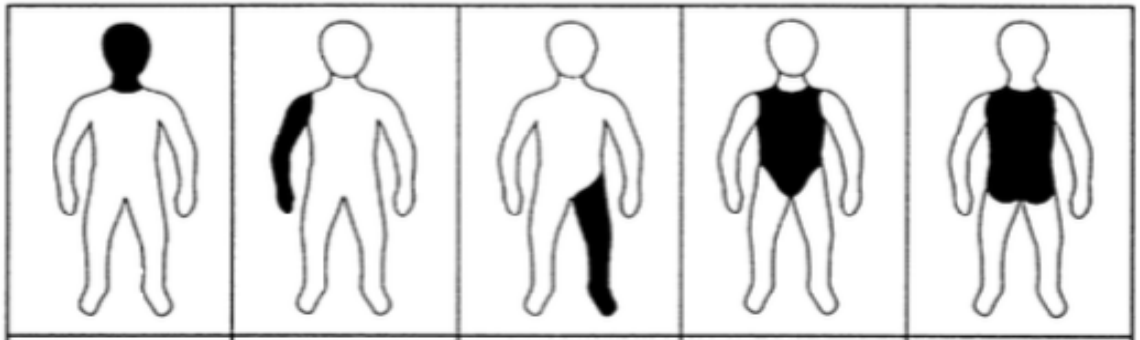
Kalavala M et al. Journal of Dermatological Treatment. 2007; 18: 319–320

A Parent's Guide to the Use of Topical Treatment

Use the adult *Fingertip Unit* (FTU) as your guide.

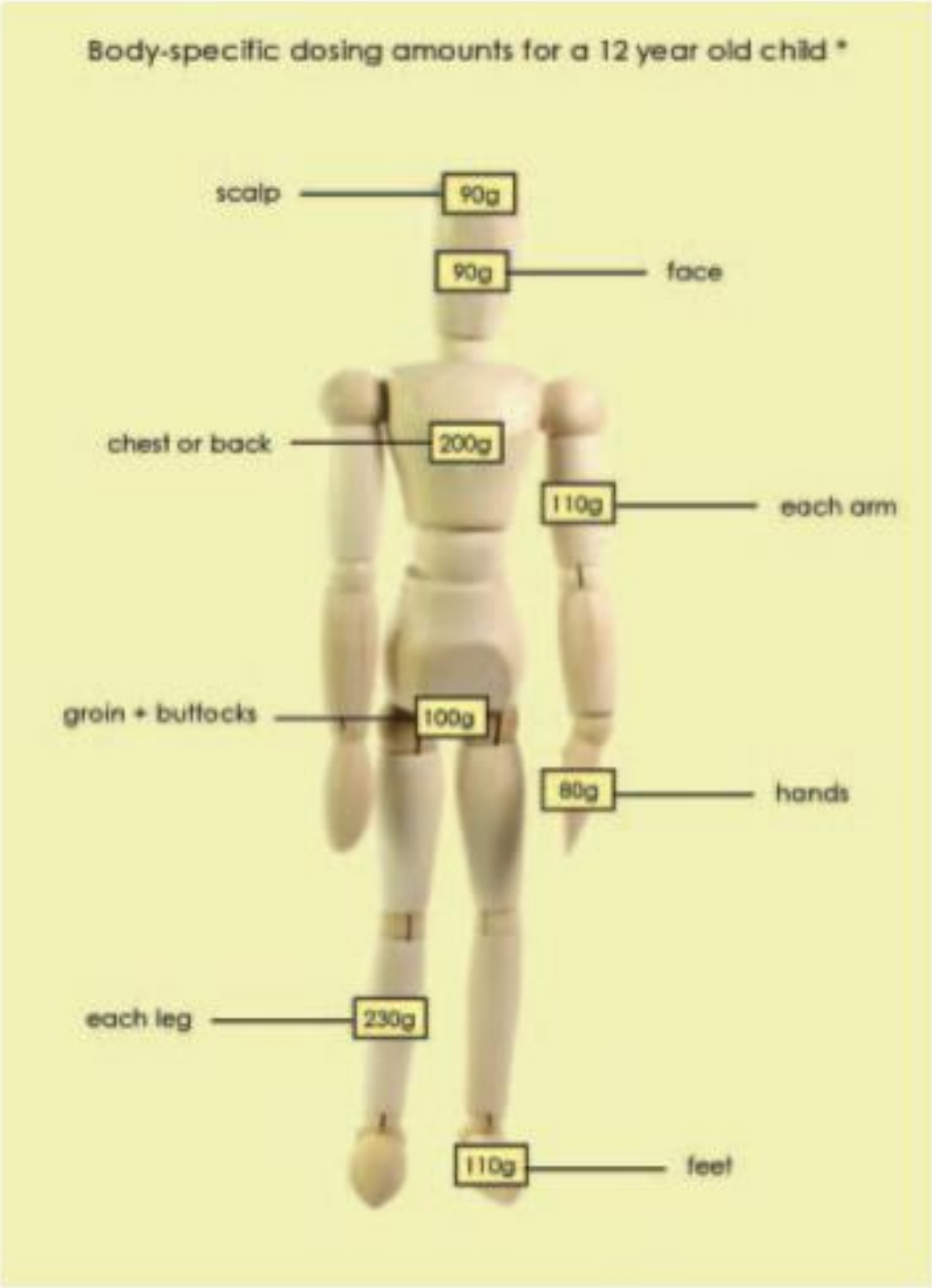
One adult *Fingertip Unit* (FTU)

The diagrams of the child (below) show how many adult *Fingertip Units* of cream or ointment are required to cover each area of the child's body.



Age	Face & Neck	Arm & Hand	Leg & Foot	Trunk (Front)	Trunk (Back) inc. Buttocks
	Number of FTUs				
3-6 mth	1	1	1½	1	1½
1-2 y	1½	1½	2	2	3
3-5 y	1½	2	3	3	3½
6-10 y	2	2½	4½	3½	5

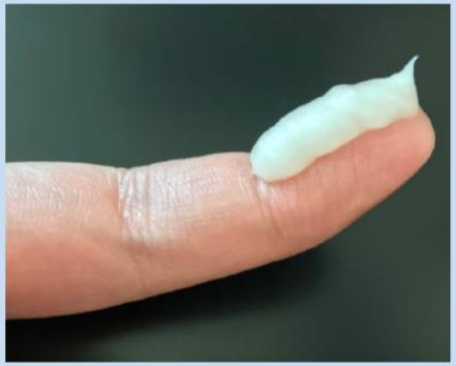
Long C et al. A practical guide to topical therapy in children. Br J Dermatol. 1998 Feb;138(2):293-6.



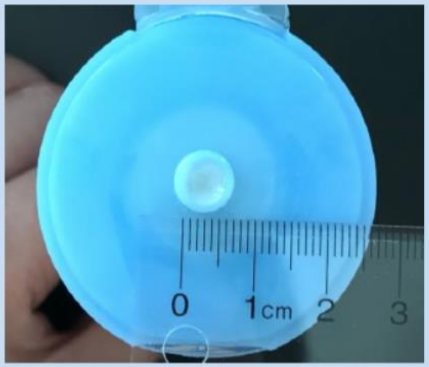
Amount required for 2 times a day for a month

Nelson AA et al. J Dermatolog Treat. 2006;17(4):224-8.

TABLE 2 The fingertip unit (FTU) and number of FTUs to treat each anatomical area



(A) A fingertip unit (FTU) is defined as the amount of topical product expressed from a tube applied from the distal skin crease to the tip of the index finger.



(B) The tube in which the topical product is expressed from must have a 5 mm diameter nozzle.

Anatomical site	Number of FTUs to treat each anatomical area
Face and neck	2.5
Trunk	7 (Front) 7 (Back)
1 arm	3
1 hand	1
1 leg	6
1 foot	2

Adapted from Long and Finlay.[69] The photos have been reproduced with permission from Ian T. Y. Wong, RPh.

Rule of “thumb”

- Rule of the finger
  - 1 fingertip unit = 2 adult hand-print areas

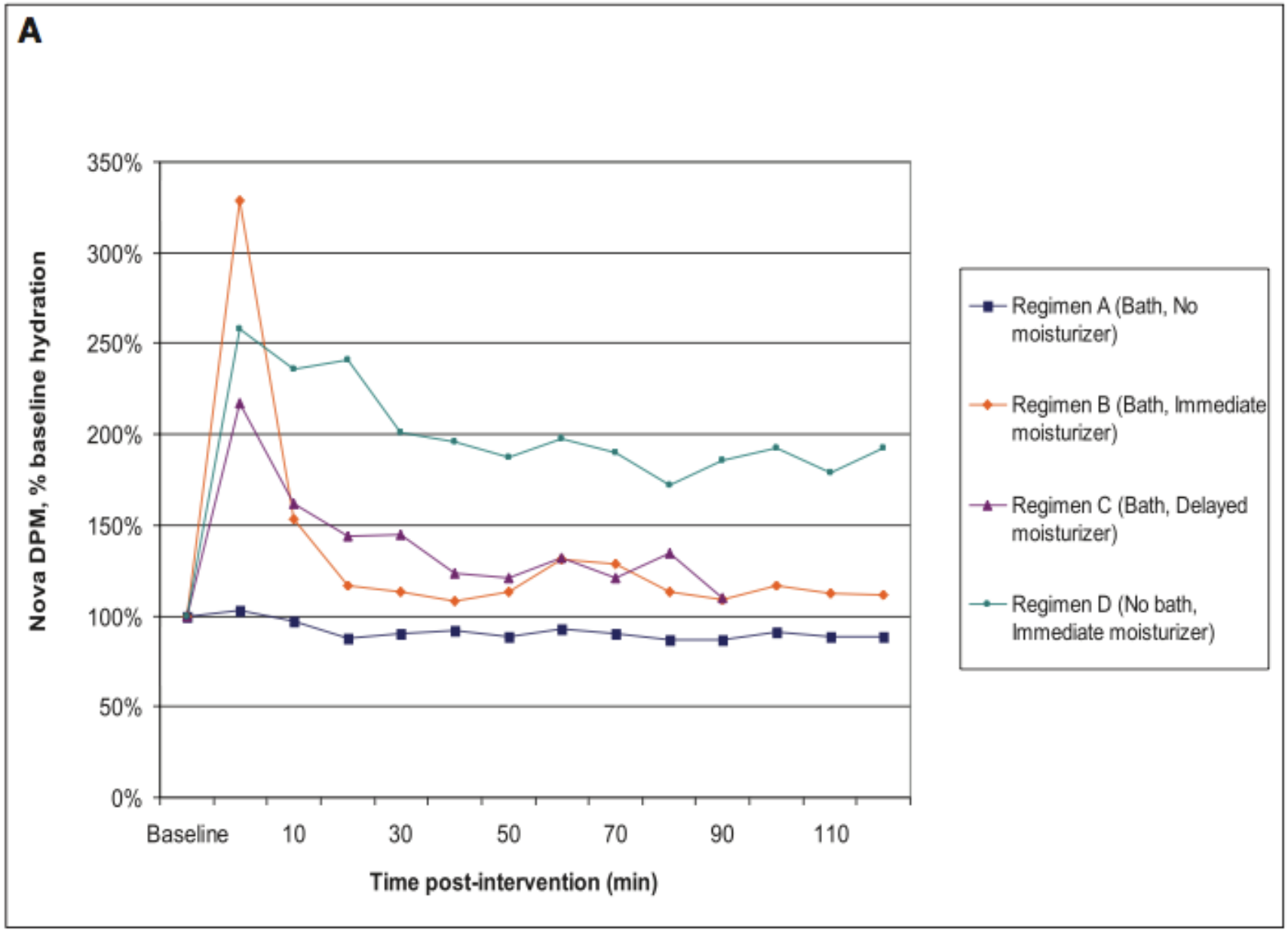
Tip #6: You don’t need to limit the baths

The important thing is the moisturization

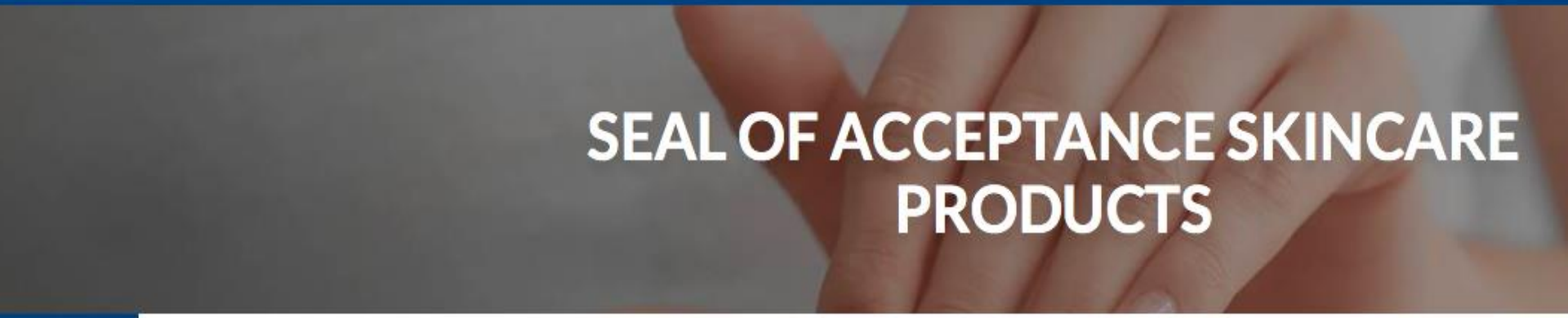
TABLE 1. *Description of the Four Treatment Regimens*

Treatment regimen	Description
A	10 min bath. No moisturizer
B	10 min bath. Immediate moisturizer application
C	10 min bath. Delayed (30 min postbathing) moisturizer application
D	No bath (10 min wait period). Immediate moisturizer application

Chiang C, Eichenfield LF.Pediatr Dermatol. 2009 May-Jun;26(3):273-8



Chiang C, Eichenfield LF.Pediatr Dermatol. 2009 May-Jun;26(3):273-8



SEAL OF ACCEPTANCE SKINCARE PRODUCTS

Always look for the Seal of Acceptance

Products that are identified as 'Accepted', have undergone a formal review, are free of ingredients to be irritating to sensitive skin and have earned our Seal of Acceptance. Look for products bearing the Seal of Acceptance to help you find suitable products for your skin. We recommend patch testing any skin care product before applying to a large area of the body. Speak with your doctor if you have any concerns related to your eczema management. For more information, please see our Seal of Acceptance Statement or Seal of Acceptance Card

Eczema Society of Canada
Société canadienne de l'eczéma
Accepted · Accepté
www.eczemahelp.ca

Ointments > Creams > Lotions > Gels

Tips on how to bathe

- Think of washing dirty dishes …
  - Do opposite in kids with eczema

Tip #7: Ask your patient to bring in their medications

Compliance is worse

than you think!

Bringing in medication

- Can demonstrate amount to apply
- Better sense of amount used
- Compliance is usually worse than I think

Stealth monitoring of adherence to topical medication: Adherence is very poor in children with atopic dermatitis

Jennifer Krejci-Manwaring, MD,[a] Mark G. Tusa, MD,[a] Christie Carroll, MD,[a] Fabian Camacho, MS,[a] Mandeep Kaur, MBBS,[a] David Carr, BS,[d] Alan B. Fleischer, Jr, MD,[a] Rajesh Balkrishnan, PhD,[d] and Steven R. Feldman, MD, PhD[a,b,c]

Winston-Salem, North Carolina, and Columbus, Ohio

Background: Atopic dermatitis is a common problem for which topical agents are the primary treatment. When topical medications fail, further therapy may include systemic agents with the potential for greater toxicity. Adherence to topical treatment of atopic dermatitis has not been well characterized. Poor adherence to topical medication could account for failure of topical therapy.

Purpose: To determine adherence to topical treatment in patients with atopic dermatitis.

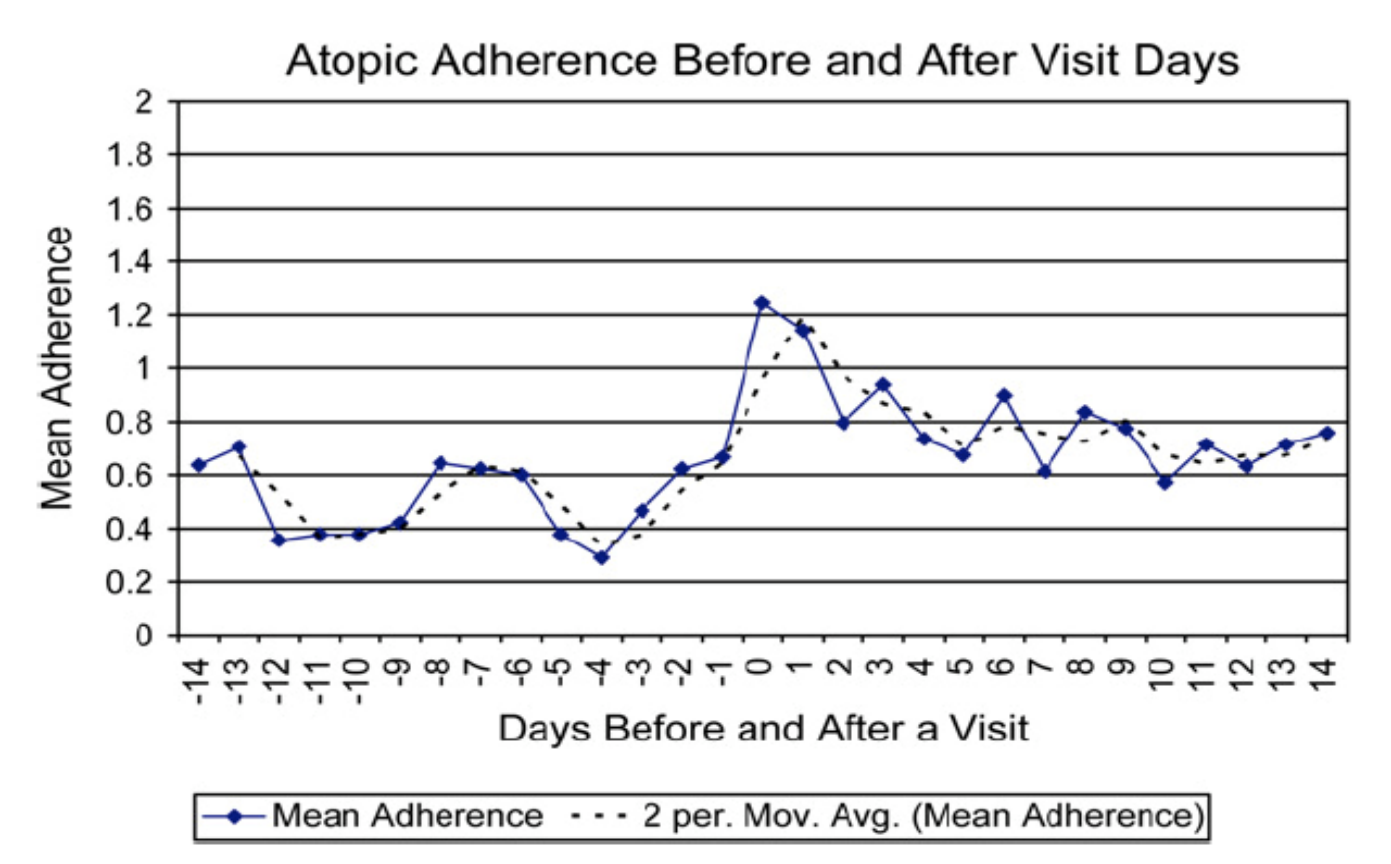
Methods: Thirty-seven children were given 0.1% triamcinolone ointment and were counseled to use it twice daily. They were told to return in 4 weeks, at which time they were told to continue treatment for another 4 weeks. Electronic monitors were used to measure adherence over the entire 8 week study. Patients were not informed of the compliance monitoring until the end of the study.

Results: Twenty-six patients completed 8 weeks of treatment. Mean adherence from the baseline to the end of the study was 32%. Adherence was higher on or near office visit days and subsequently decreased rapidly.

Limitations: This study was limited by the large number of subjects who failed to return for follow-up appointments or withdrew from the study.

Krejci-Manwaring J, Tusa MG, Carroll C, et al. J Am Acad Dermatol 2007;56:211-216.

It's like going to the dentist…



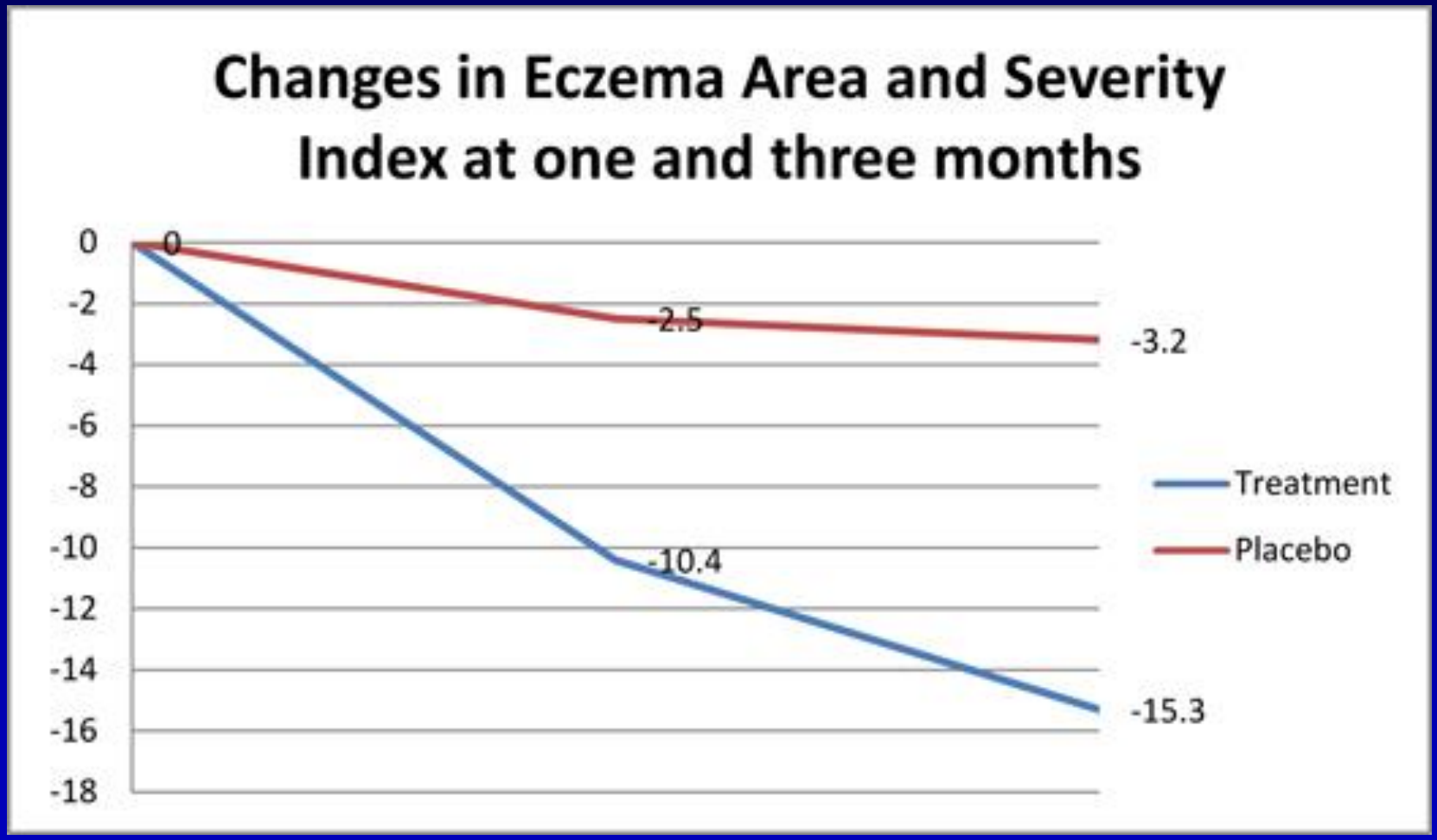
Krejci-Manwaring J, Tusa MG, Carroll C, et al. J Am Acad Dermatol 2007;56:211-216.

Tip #8:
Try “Swimming Pool” baths

Help is under your kitchen sink!

A “swimming pool bath”primer (i.e. bleach baths)

- Add 1/4 to 1/2 cup of regular bleach to 1 full bathtub
- Soak for 5 minutes
- Rinse off skin
- Repeat 2-3 times per week



Huang JT, Abrams M, Tlougan B, Rademaker A, Paller AS. Pediatrics. 2009 May;123(5):e808-14.

TIME IN PARTNERSHIP WITH CNN

Study: Baths with Bleach Help Kids' Eczema

By **TIFFANY SHARPLES** Monday, Apr. 27, 2009

Newsfeed

- Flood Fallout: Great Barrier Reef Threatened by Australia Floodwaters
- Quotes: The Onion Jokes That Hu Jintao Should Pay for Dinner
- What Recession? India's Economy Poised to Expand More Quickly than China's

Image Source / Getty

flickr/PhylB

Eczema, a inflammatory skin disease, impacts as many as one in five children. New research shows that dilute bleach baths are an effective treatment for reducing the severity of the disorder.

Study shows bleach helps take pain out of eczema

BY **ELIZABETH DIFFIN**
MAY 19, 2009

It may not work the way we think...

J ALLERGY CLIN IMMUNOL
MAY 2019

Dilute bleach baths used for treatment of atopic dermatitis are not antimicrobial *in vitro*

To the Editor:

Colonization of the skin of patients by *Staphylococcus aureus* is considered a risk for skin infection and an exacerbating factor in atopic dermatitis.[1] Because of the negative effects associated with *S aureus* colonization, clinicians commonly seek methods to eradicate colonization by *S aureus*. A diluted bleach solution (sodium hypochlorite [NaOCl] 0.005%) is often used for this purpose, with conflicting reports of its efficacy to decrease the severity of inflammation or eradicate *S aureus* on the skin.[2-4] In this study we sought to directly test the assumption that NaOCl at concentrations recommended for bleach baths is an effective antibacterial agent.

Three laboratory strains of *S aureus* (USA300, Newman, and Sanger 252) were initially selected for this study. Bacterial colony growth was initiated by plating 2×10^3 colony-forming units (CFUs) of each strain on 100-cm^2 Tryptic Soy Broth (TSB) agar plates and then submerging each plate in various concentrations of bleach for 15 minutes at 37°C to test survival on a nutrient-rich surface. Twenty-four hours after this treatment, direct colony counting showed no significant difference in the survival of *S aureus* exposed to between 0% and 0.01% NaOCl in water (Fig 1, *A*). A bactericidal effect of dilute skin appendages, such as sebaceous glands, eccrine glands, and hair follicles. The composition of the epidermal surface can also influence the capacity of bleach baths to act as antimicrobial agents. To examine this, 1×10^6 CFUs of *S aureus* USA300 were applied to explants of pig skin for 15 minutes at room temperature, and the skin was then submerged in a range of NaOCl concentrations for 15 minutes to simulate immersion in a bleach bath. Immediately after this treatment, surviving CFUs were measured. Similar to the results in defined cultures, 0.005% NaOCl had no significant bactericidal effect on *S aureus* compared with water alone (Fig 1, *E*). Therefore these results suggest that a bleach bath has no antibacterial action against *S aureus* on skin.

In our final experiment, we assessed whether NaOCl might have a beneficial therapeutic effect against *S aureus* by influencing expression of virulence functions of bacteria rather than directly killing them. The accessory gene regulator (agr) quorum–sensing system plays a central role in regulation of *S aureus* virulence by controlling the expression of toxins that can cause epidermal damage and skin inflammation.[6,7] To test the action of NaOCl on agr activity, an agr–yellow fluorescent protein reporter strain of *S aureus* was examined during exposure to bleach for 24 hours in TSB at 37°C. A bleach bath solution of 0.005% showed no significant effect on agr activity compared with water (Fig 1, *F*). These results show that the *S aureus* agr quorum–sensing system is also not inhibited during bleach bath

It may not work the way we think...

J ALLERGY CLIN IMMUNOL
MAY 2019

Dilute bleach baths used for treatment of atopic dermatitis are not antimicrobial *in vitro*

skin appendages, such as sebaceous glands, eccrine glands, and hair follicles. The composition of the epidermal surface can also influence the capacity of bleach baths to act as antimicrobial

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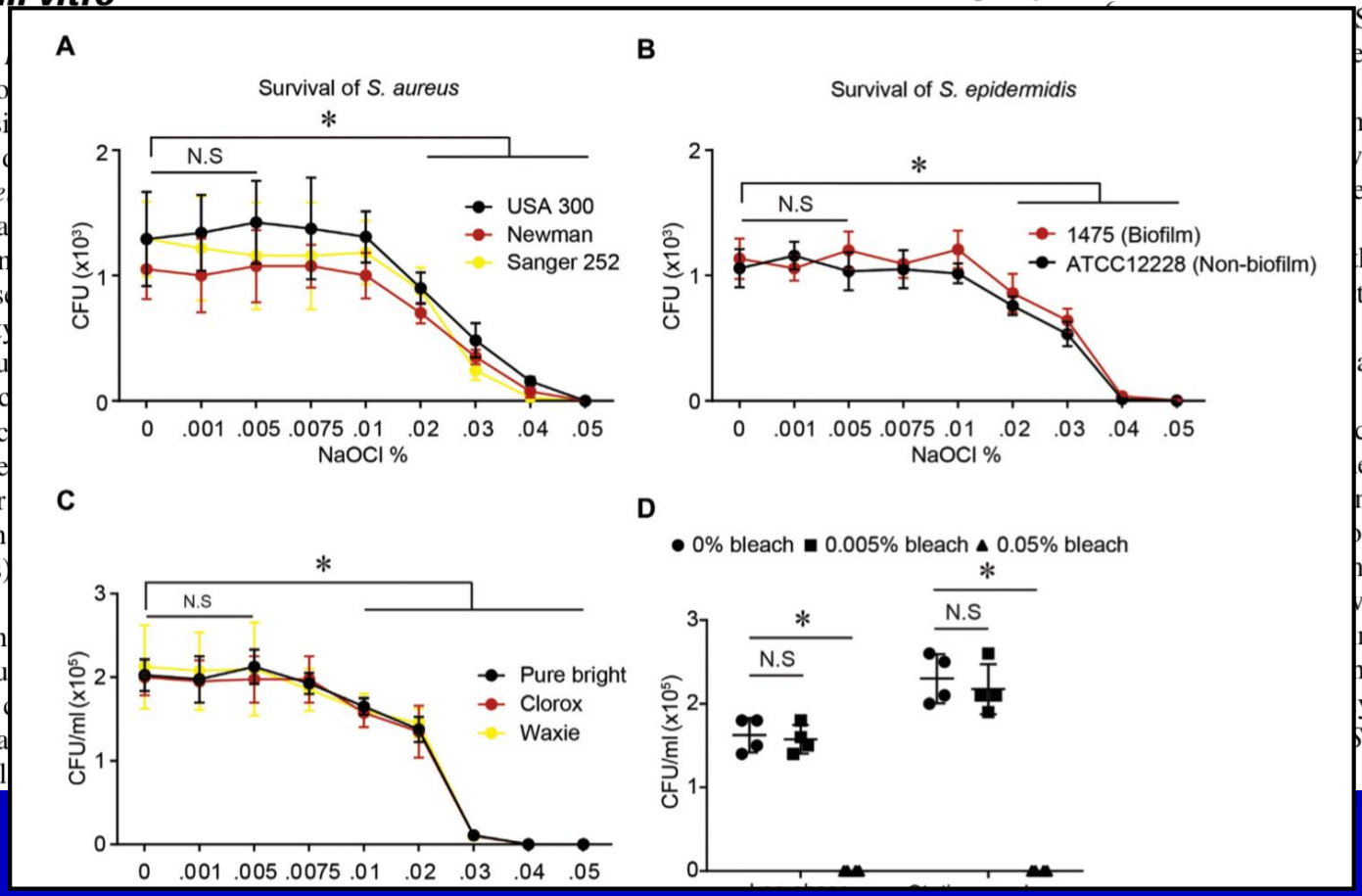

Bleach can targets inflammation directly

Research article

Topical hypochlorite ameliorates NF-κB–mediated skin diseases in mice

Thomas H. Leung,[1,2] Lillian F. Zhang,[1] Jing Wang,[1] Shoucheng Ning,[3] Susan J. Knox,[3] and Seung K. Kim[1,4,5]

[1]Department of Developmental Biology, [2]Department of Dermatology, [3]Department of Radiation Oncology, [4]Howard Hughes Medical Institute, and [5]Department of Medicine, Oncology Division, Stanford University School of Medicine, Stanford, California, USA.

Nuclear factor-κB (NF-κB) regulates cellular responses to inflammation and aging, and alterations in NF-κB signaling underlie the pathogenesis of multiple human diseases. Effective clinical therapeutics targeting this pathway remain unavailable. In primary human keratinocytes, we found that hypochlorite (HOCl) reversibly inhibited the expression of *CCL2* and *SOD2*, two NF-κB–dependent genes. In cultured cells, HOCl inhibited the activity of inhibitor of NF-κB kinase (IKK), a key regulator of NF-κB activation, by oxidizing cysteine residues Cys114 and Cys115. In NF-κB reporter mice, topical HOCl reduced LPS-induced NF-κB signaling in skin. We further evaluated topical HOCl use in two mouse models of NF-κB–driven epidermal disease. For mice with acute radiation dermatitis, topical HOCl inhibited the expression of NF-κB–dependent genes, decreased disease severity, and prevented skin ulceration. In aged mice, topical HOCl attenuated age-dependent production of $p16^{INK4a}$ and expression of the DNA repair gene *Rad50*. Additionally, skin of aged HOCl-treated mice acquired enhanced epidermal thickness and proliferation, comparable to skin in juvenile animals. These data suggest that topical HOCl reduces NF-κB–mediated epidermal pathology in radiation dermatitis and skin aging through IKK modulation and motivate the exploration of HOCl use for clinical aims.

HEALTHY LIVING 11/15/2013 11:55 EST | Updated 11/18/2013 08:38 EST

Study Suggests Bleach Can Reverse The Aging Process

Bleach may be key in treating skin damage and aging, a new study from the Stanford University School of Medicine found.

A diluted mixture of .005% bleach in water showed to reverse both the inflammation and aging of the skin in trials conducted on mice, giving researchers hope that this inexpensive household item may be the answer to addressing serious conditions in humans, including painful side-effects of cancer treatments.

Bleach dilutions have been effective in treating eczema, but doctors have never honed in on why, lead study author Thomas Leung said to The Huffington Post. His research in this study found that exposing skin to bleach blocked the expression of genes regulated by the NF-kB protein complex in cells, which play

Does it really work?

Ann Allergy Asthma Immunol 119 (2017) 435–440

Contents lists available at ScienceDirect

Efficacy of bleach baths in reducing severity of atopic dermatitis: A systematic review and meta-analysis

Rishi Chopra, MS [*]; Paras P. Vakharia, PharmD [*]; Ryan Sacotte, BS [*]; Jonathan I. Silverberg, MD, PhD, MPH [†,‡]

[*] *Department of Dermatology, Northwestern University Feinberg School of Medicine, Chicago, Illinois*
[†] *Department of Dermatology, Preventive Medicine and Medical Social Sciences, Northwestern University Feinberg School of Medicine, Chicago, Illinois*
[‡] *Northwestern Medicine Multidisciplinary Eczema Center, Chicago, Illinois*

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ABSTRACT

Background: Bleach baths have been proposed as a treatment for decreasing the severity of atopic dermatitis (AD). However, conflicting results have been found regarding their efficacy.
Objective: To determine the efficacy of bleach vs water baths at decreasing AD severity.
Methods: We performed a systematic review of all studies evaluating the efficacy of bleach baths for AD. Cochrane, EMBASE, GREAT, LILACS, MEDLINE, and Scopus were searched. Two authors independently performed study selection and data extraction.
Results: Five studies were included in the review. Four studies reported significantly decreased AD severity in patients treated with bleach on at least 1 time point. However, of 4 studies comparing bleach with water baths, only 2 found significantly greater decreases in AD severity with bleach baths, 1 found greater decreases with water baths, and 1 found no significant differences. In pooled analyses, there were no significant differences observed between bleach vs water baths at 4 weeks vs baseline for the Eczema Area and Severity Index ($I^2 = 98\%$; random effect regression model, $P = .16$) or body surface area ($I^2 = 96\%$; $P = .36$).
Conclusion: Although bleach baths are effective in decreasing AD severity, they do not appear to be more effective than water baths alone. Future larger-scale, well-designed randomized controlled trials are needed.

Does it really work?

ELSEVIER

Efficacy of bleach
systematic review

Rishi Chopra, MS*; Par
Jonathan I. Silverberg,

*Department of Dermatology, Northwes
†Department of Dermatology, Preventiv
‡Northwestern Medicine Multidisciplin

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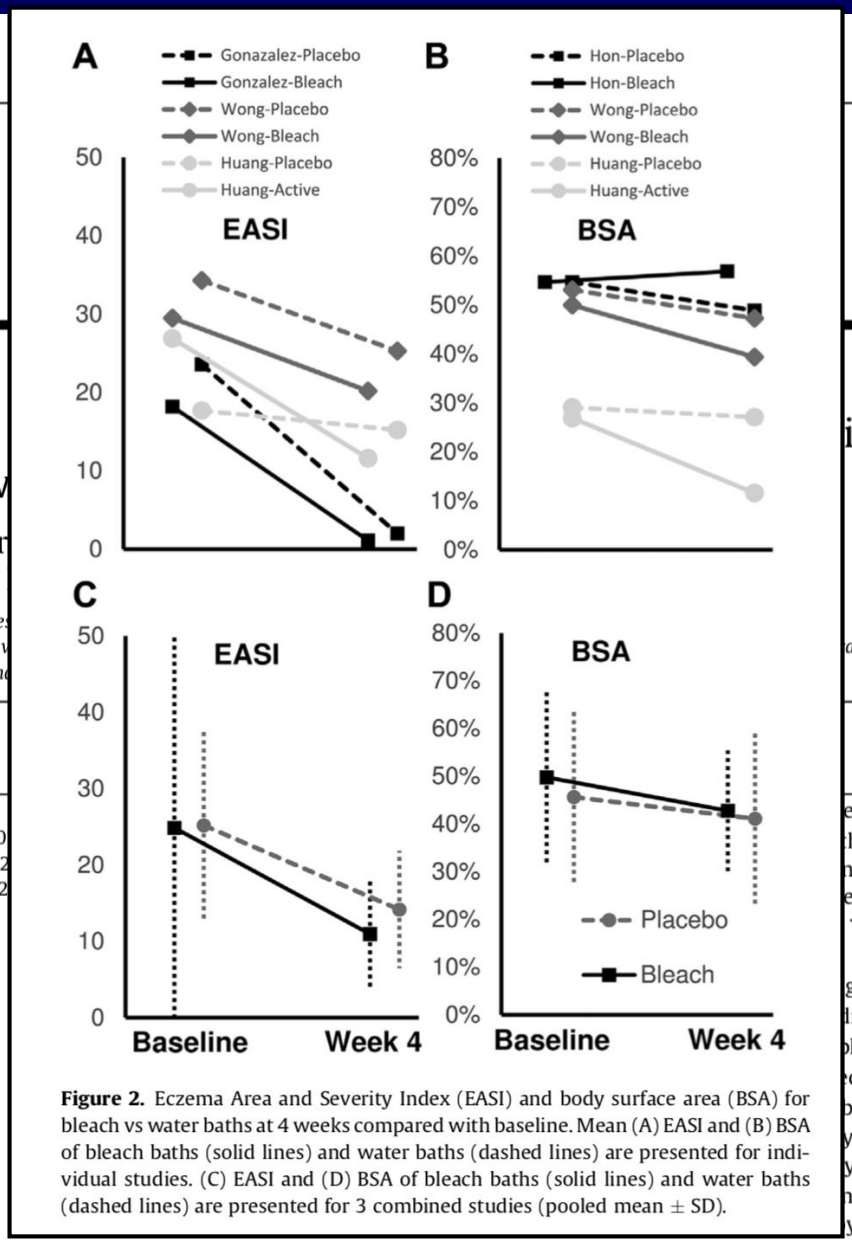

Figure 2. Eczema Area and Severity Index (EASI) and body surface area (BSA) for bleach vs water baths at 4 weeks compared with baseline. Mean (A) EASI and (B) BSA of bleach baths (solid lines) and water baths (dashed lines) are presented for individual studies. (C) EASI and (D) BSA of bleach baths (solid lines) and water baths (dashed lines) are presented for 3 combined studies (pooled mean ± SD).

Annals of Allergy, Asthma & Immunology

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Two authors independently per-

gnificantly decreased AD severity
lies comparing bleach with water
bleach baths, 1 found greater de-
d analyses, there were no signif-
baseline for the Eczema Area and
y surface area ($I^2 = 96\%$; $P = .36$).
y, they do not appear to be more
nized controlled trials are needed.

Does it really work?

Ann Allergy Asthma Immunol 119 (2017) 435–440

Contents lists available at ScienceDirect

Efficacy of bleach baths in reducing severity of atopic dermatitis: A systematic review and meta-analysis

Rishi Chopra, MS [*]; Paras P. Vakharia, PharmD [*]; Ryan Sacotte, BS [*]; Jonathan I. Silverberg, MD, PhD, MPH [†,‡]

[*] Department of Dermatology, Northwestern University Feinberg School of Medicine, Chicago, Illinois
[†] Department of Dermatology, Preventive Medicine and Medical Social Sciences, Northwestern University Feinberg School of Medicine, Chicago, Illinois
[‡] Northwestern Medicine Multidisciplinary Eczema Center, Chicago, Illinois

ARTICLE INFO

ABSTRACT

Results: Five studies were included in the review. Four studies reported significantly decreased AD severity in patients treated with bleach on at least 1 time point. However, of 4 studies comparing bleach with water baths, only 2 found significantly greater decreases in AD severity with bleach baths, 1 found greater decreases with water baths, and 1 found no significant differences. In pooled analyses, there were no significant differences observed between bleach vs water baths at 4 weeks vs baseline for the Eczema Area and Severity Index ($I^2 = 98\%$; random effect regression model, $P = .16$) or body surface area ($I^2 = 96\%$; $P = .36$).
Conclusion: Although bleach baths are effective in decreasing AD severity, they do not appear to be more effective than water baths alone. Future larger-scale, well-designed randomized controlled trials are needed.

Tip #9: Consider the impact on quality of life

What you see isn't always what you get

Social impact of AD

- Social isolation *(misconception of infectivity)*
  - Occasionally teasing and bullying
- Limit sports and outdoor activities
  - Embarrassment, discomfort and exacerbation of disease

Vivar KL, Kruse L. Int J Womens Dermatol. 2017; 4(1):27-31.
Lewis-Jones S.Int J Clin Pract. 2006 Aug;60(8):984-92

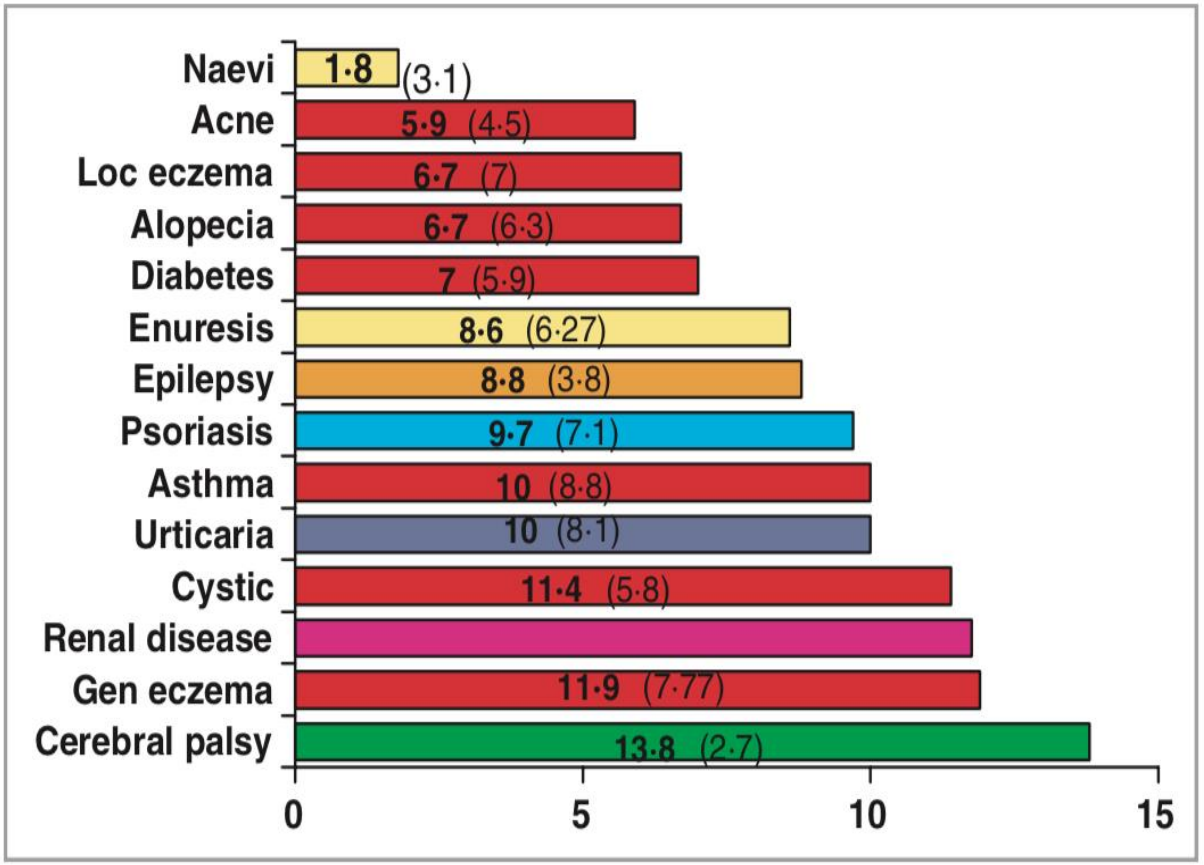


Fig 3. Children's Life Quality Index© (CLQI) scores (mean ± SD) for 540 children, 379 with chronic skin disease and 161 with other chronic diseases.

Association of atopic dermatitis with depression, anxiety, and suicidal ideation in children and adults: A systematic review and meta-analysis

Amalie Thorsti Møller Rønnstad, MS,[a,b] Anne-Sofie Halling-Overgaard, MS,[a,b] Carsten R. Hamann, MD,[a,b] Lone Skov, MD, PhD, DMSc,[a,b] Alexander Egeberg, MD, PhD,[a,b] and Jacob P. Thyssen, MD, PhD, DMSc[a,b,c]

Hellerup, Denmark

Background: Atopic dermatitis (AD) has been associated with anxiety and depression, but the magnitude of the alleged association is unknown.

Objective: To perform a systematic review and meta-analysis of the association between AD in children and adults and, respectively, depression, anxiety, and suicidal behavior.

Methods: The medical databases PubMed, Embase, and PsychINFO were searched.

Results: There was a significant association between adult AD and, respectively, depression (pooled odds ratio [OR], 2.19; 95% confidence interval [CI], 1.87-2.57) and anxiety (pooled OR, 2.19; 95% CI, 1.75-2.73). AD was also associated with depression in children (pooled OR, 1.27; 95% CI, 1.12-1.45); few data were available for anxiety. A positive association was found between AD in adults and adolescents and suicidal ideation (pooled OR, 4.32; 95% CI, 1.93-9.66). Only a few studies examined the risk of completed suicide, but the majority showed a positive association between completed suicide and AD.

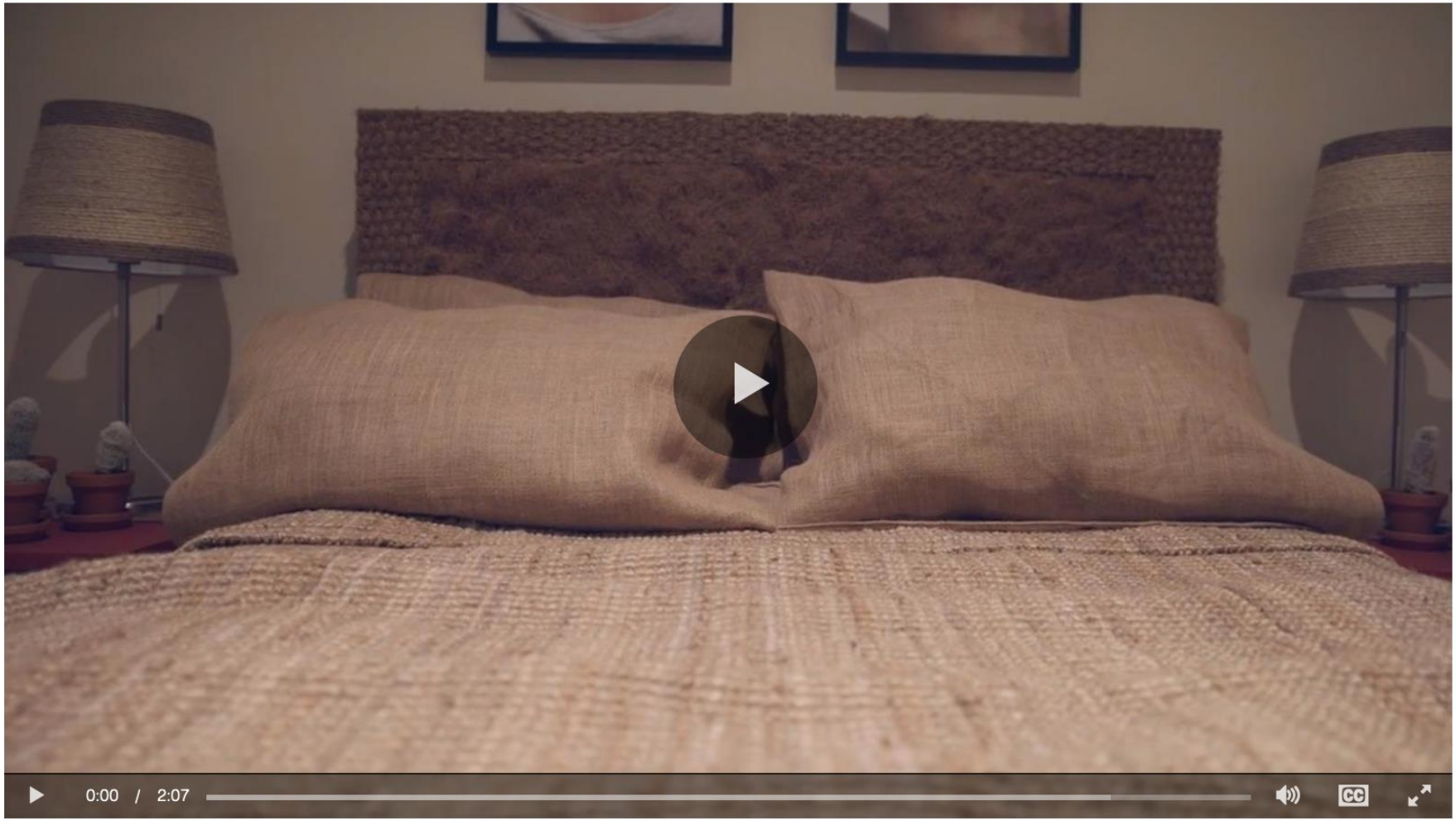
Limitations: Included studies used different definitions of depression and anxiety, and few studies examined the severity of AD.

Conclusion: Depression, anxiety, and suicidal ideation should be considered by doctors when treating patients with AD. Because AD disease improvement appears to reduce these risks, this should be a priority. (J Am Acad Dermatol 2018;79:448-56.)

What's keeping you up at night?

For most people living with atopic dermatitis, it's relentless itching and scratching. For Tanya Mohan, a woman living with atopic dermatitis, "the itch is like a habit I can't kick; it's always there and takes precedence over everything I do."

Watch what happened when someone had the chance to spend a night in someone else's shoes.



YouTube

Sleeping in the World's Most Uncomfortable Bed

Tip #10: Use handouts and websites

Counter the misinformation on the web

Patient Handouts

The Society for Pediatric Dermatology (SPD) has created a series of informative handouts, called **Patient Perspectives**, on common skin conditions seen in children and teens, for use by providers and families. We hope you will find these helpful. Please see the list below for current topics to access and/or print. These handouts are for personal and/or educational use, and should not be used commercially or for profit. The Society for Pediatric Dermatology and Wiley-Blackwell Publishing cannot be held responsible for any errors or for any consequences arising from the use of the information contained in these handouts.

Click on the topic below to access a patient handout:

- Acne*+
- Alopecia Areata
- Atopic Dermatitis (Eczema)*
- Pediatric Skin Cancer
- Pilomatricoma
- Propranolol for Infantile Hemangiomas

https://pedsderm.net/for-patients-families/patient-handouts/ accessed May 22, 2019

PATIENT PERSPECTIVES

Atopic dermatitis (eczema)

Atopic dermatitis, also called *eczema*, is a common and chronic skin condition in which the skin appears inflamed, red, itchy and dry. It most commonly affects children.

Atopic dermatitis is most likely caused by a combination of genetic and environmental factors. Genetic causes include differences in the proteins that form the skin barrier. When this barrier is broken down, the skin loses moisture more easily, becoming more dry, easily irritated, and hypersensitive. The skin is also more prone to infection (with bacteria, viruses, or fungi). The immune system in the skin may be different and overreact to environmental triggers such as pet dander and dust mites.

Allergies and asthma may be present more frequently in individuals with atopic dermatitis, but they are not the cause of eczema. Infrequently, when a specific food allergy is identified, eating that food may make atopic dermatitis worse, but it usually is not the cause of the eczema.

In infants, atopic dermatitis often starts as a dry red rash on the cheeks and around the mouth, often made worse by drooling. As children grow older, the rash may be on the arms, legs, or in other areas where they are able to scratch. In teenagers, eczema is often on the inside of the elbows and knees, on the hands and feet, and around the eyes.

There is no cure, but there are recommendations to help manage this skin problem.

https://pedsderm.net/site/assets/files/1028/spd_atopic_dermatitis_color_web_final2.pdf acces

Dermatology Resources

We support dermatologists across BC to diagnose and treat children's skin, hair and nail disorders.

The BC Children's Hospital Dermatology Clinic is a referral-based service that cares for more than 3,000 children each year, mostly outpatient consultations. We also offer a telehealth service which provides phone and digital consultation to physicians beyond BC's Lower Mainland.

Phototherapy is available to children under the care of staff dermatologists as well as to those referred by community-based medical practitioners for care by BC Children's Hospital staff

Dermatology Referral ›

Dermatology Clinic ›

Contact us

Dermatology Clinic
Ambulatory Care Building

Patient handouts

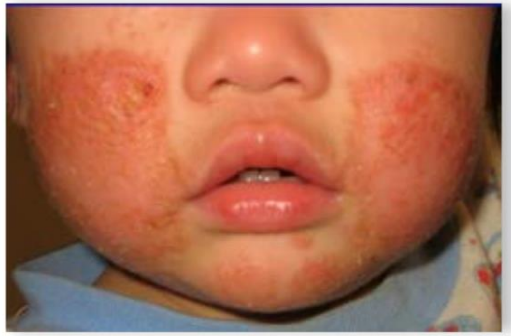
These PDF documents were produced by BC Children's Hospital dermatologist Dr. Joseph Lam, MD, FRCPC.

- Accutane
- Acne
- Alopecia areata
- Atopic dermatitis
- CMN
- Diaper dermatitis
- Eczema
- Hemangioma
- Hyperhidrosis
- Keratosis pilaris
- Mastocytosis
- Methotrexate
- Molluscum
- Nevus sebaceous
- OCP
- Pityriasis alba
- Pityriasis lichenoides
- Propranolol
- Psoriasis
- Scabies
- Tinea capitis

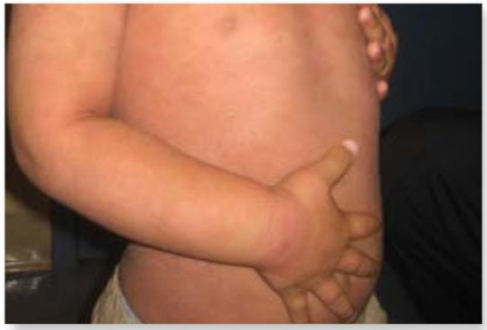
ECZEMA

What is eczema?

Atopic dermatitis (also called eczema) is a condition where the skin is dry, red and itchy. The main function of the skin is to provide protection (keeping water in and irritants out). In eczema, that protection is not working well. The skin gets dry and easily irritated. As a result, when patients with eczema get a flare, the skin gets red, scaly and itchy.



Why do people get eczema?



A big part of eczema's cause is dues to genetics.
In particular, the genes that control how the skin is put together can be altered in children with eczema. However, there are also factors in the environment which can trigger flares of eczema. Scratching, drool, irritating soaps, dust mites, and pet dander are some of the more common triggers. Food can sometimes be a trigger, but is often not a factor in most children with eczema. There is no blood test to diagnose eczema. Fortunately, most children outgrow eczema. However, some will continue to have sensitive skin into adulthood.

How do you 'fix' eczema?

Eczema action plan

Check your child's skin each day and look for signs of rash. Use the daily care guidelines and the 3 zones below to decide your skin care plan for the day.

Daily skin care routine

- **Bath/shower:** Have your child take a bath or a shower for 15 minutes or less. Use a mild cleanser only if there is visible dirt or on "dirty" areas (armpits, groin, feet). Pat dry and moisturize within 5 min of exiting the bath/shower.

  Cleanser options: Aveeno/ Cetaphil Restoraderm/ Spectro Kids/ Dove Sensitive Skin unscented bar soap/ Lipikar Syndet.

- **Moisturizer:** Apply moisturizer to your child's entire body at least 2 times a day and immediately after bath, or more often if needed for itchy, dry skin.

  Moisturizer options: A-Derma EXOMEGA Emollient Balm/ Aquaphor/ Aveeno balm/ Avène XeraCalm/ Cetaphil Restoraderm/ CeraVe cream/ Curel Itch Defense Lotion/ Eucerin eczema relief cream/ Glaxal base/ Glysomed/ Lipikar Baume AP+/ Neutrogena Norwegian formula hand cream/ Vaseline

Mild (skin is just dry or very little redness)

- Continue daily skin care routine with daily moisturizing (see above)

Moderate (skin starting to flare with redness and itchiness)

- Continue daily skin care routine (see above).
- **Apply**: Desonide/ DermaSmoothe/ Hydrocortisone/ Elidel/ Protopic/ _____ twice daily to **face, groin**.
- **Apply**: Betamethasone valerate/ Mometasone/ Protopic/ _____ once/twice daily to **body, resistant areas**.
- **Apply**: Clobetasol/_____ once/twice daily to **hands, wrists, ankles, feet and thick areas**.
- **Apply**: Dermasmoothe/ Cyclocort/ Valisone/ Clobetasol/ _____ once/twice daily to **scalp**.

CHEO

ADDRESSOGRAPH

ECZEMA ACTION PLAN & PRESCRIPTION

PHYSICIAN: *Initial beside selected orders.*
PHARMACIST: *Fill medications as directed by physician.*

*WEIGHT*_____*kg* *ALLERGIES*_____

The **Prescribed Cream** should only be applied to affected areas

ECZEMA UNDER GOOD CONTROL :

Bathe:
- Daily
- Pat dry

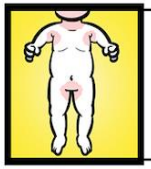
If Needed

To Control At Risk Areas Apply Medicated Creams On and Off:
**For one month*
- Protopic® **two -three times a week** OR
- Desonide 0.05% **two times a week**

Apply Moist Cream:
- At least two times a day

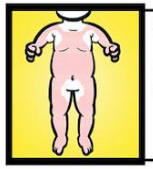
ECZEMA FLARE-UP :

Continue **Eczema under good control** measures (above)



Face, Neck, Armpits, and/or Groin:

__Desonide 0.05% ointment **two times a day** M: 60g R:3
__Protopic® ointment **two times a day** M: 60g R:3
□ 0.03% □ 0.1%
__Other:_____ M:___ R:3

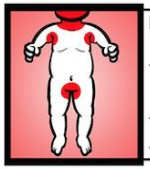


Body (arms, legs, hands, feet and torso):

□ Use same prescription as **Face**
__Betamethasone valerate 0.1% ointment **two times a day** M: 454g R:3
__Other:_____ M:___ R:3

ECZEMA OUT OF CONTROL :

Continue **Eczema under good control** measures (above) and **go see your doctor** if your/your child's eczema does not get better within **5-7 days**



Face, Neck, Armpits, and/or Groin:

__Betamethasone valerate 0.1% ointment* **two times a day** M: 454g R:3
__Other:_____ M:___ R:3
**NO MORE THAN 14 out of 21 DAYS*

Body (arms, legs, hands, feet and torso):

□ Use same prescription as **Face**
__Clobetasol propionate 0.05% ointment* **two times a day** M: 50g R:3
__Other:_____ M:___ R:3
**NO MORE THAN 7 out of 14 DAYS*

ADDITIONAL MEASURES:

Sleep:

__Hydroxyzine (Atarax®)_____ mg (0.5-1mg/kg/dose) **at bedtime** M: 200mL R:3
__DiphenhydrAMINE (Benadryl®)_____ mg (1 mg/kg/dose) **at bedtime** M: 1 Bottle R:3
__Other:_____ M:___ R:3

Infection Control :

__Mupirocin ointment **two times a day** M: 30g R:3
__Cephalexin suspension _____mg (17 mg/kg/dose, max 2 g/day) **three times a day** by mouth M: 14 days R:0
__Other:_____ M:___ R:3

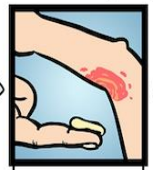
Physician: _____ (print name) License #:_____ Signature: _____ Date: _____ (dd/mm/yyyy)

Follow up with the dermatologist in___ weeks ___ months

Eczema (or **Atopic Dermatitis**) can be long-lasting and can get worse at times. This is normal. Many children may outgrow eczema, but often not until after age 10.

1 BATHE: Daily for less than 10 minutes and pat dry. **Right after bathing,** apply prescribed treatment, then moisturize.

Bathe Daily



Treat

Apply Moist Cream

Use mild soap:

□ Dove® sensitive skin beauty bar
□ Aveeno® for dry skin bar
□ Other:_____

2 TREAT: Before touching the prescribed cream, wash your hands. Covering the tip of an adult's finger is enough to treat an area equal to 2 adult handprints.

Scoop

1 Adult Fingertip

Area of Adult Palm

3 MOISTURIZE / APPLY MOIST CREAM: At least two times a day, put cream all over your / your child's body

Suggested Cream:

□ Glaxal Base® □ CeraVe® Cream
□ Cliniderm® □ Petroleum jelly
□ Aveeno Eczema Care® □ Other:_____

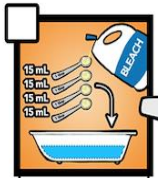
AVOID TRIGGERS AND IRRITANTS:

Heat/Humid Air

Wool

Dry Skin

INFECTION CONTROL - BLEACH BATH: Soak for less than 10 minutes and rinse. **Right after bathing,** apply medication, then apply moist cream.



4 tbsp Bleach in Half Tub of Water

Soak for less than 10 minutes

If Needed

Scoop Prescription

Treat (Step 2)

Apply Moist Cream (Step 3)

Original Article

Usability, Satisfaction, and Usefulness of an Illustrated Eczema Action Plan

Journal of Cutaneous Medicine and Surgery
2018, Vol. 22(6) 577–582

DOI: 10.1177/1203475418789028
journals.sagepub.com/home/jcms

Canadian Dermatology Association
Association canadienne de dermatologie
CME

Amanda J. Shelley[1*], Katherine A. McDonald[1*], Alana McEvoy[1,2], Maxwell Sauder[3], Nordau Kanigsberg[2,4], Roger Zemek[5], Regis Vaillancourt[6], Annie Pouliot[6], and Michele L. Ramien[2,4]

Abstract

Background: An eczema action plan (EAP) is an individualized tool to help caregivers and patients self-manage eczema. While novel illustrated EAPs have been developed and validated, there is limited literature examining the value of EAPs from patient and caregiver perspectives.

Objectives: The objective of this study was to test the usability, satisfaction, and usefulness of our validated EAP from the perspective of patients and caregivers.

Methods: Consecutive patients from the pediatric dermatology clinic of a tertiary children's hospital from July 2016 to July 2017 were offered enrolment in a prospective survey study; informed consent was obtained from participants. The illustrated EAP was explained to the participant by a trained research assistant. Participants were sent electronic postvisit surveys using Likert scale questions via REDCap on EAP usability and satisfaction (9 items) as well as on usefulness (3 items).

Results: Of 233 consecutive clinic patients, 192 participants (82%) were enrolled, and 112 (58%; 85 caregivers and 22 patients) completed the postvisit surveys. Characteristics were similar between responders and nonresponders. Overall, participants rated the usability (96%), satisfaction (85%), and usefulness (78%) of the EAP positively. Education level, experience with eczema, previous dermatology consultation, and participant type (caregiver vs patient) did not significantly affect the usability or usefulness ratings. However, caregivers' overall EAP ratings were significantly higher ($P = .02$) than the patients'.

Conclusion: The caregivers and participants demonstrate that the EAP is a useful and highly usable tool. Future research should examine the effectiveness of EAP use on objective atopic dermatitis outcomes using a pragmatic clinical trial design.

Summary

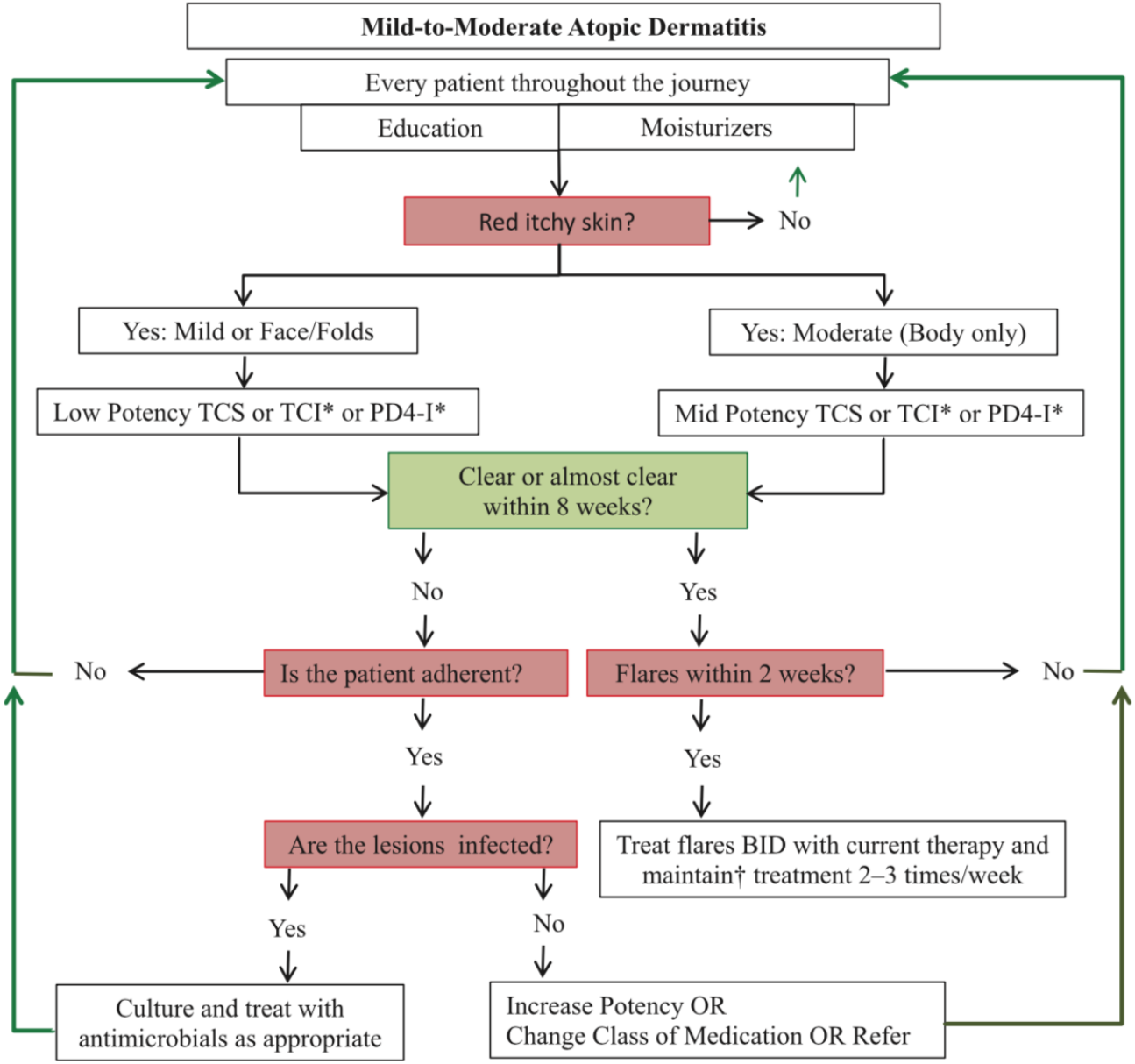
1. Watch out for atopic dermatitis mimickers
2. Education is important and can be therapeutic
3. It's (probably) not the food
4. Counter medication phobia
5. Prescribe an adequate amount of medication
6. You don't need to limit the baths
7. Ask your patient to bring in their medications
8. Try "Swimming Pool" baths
9. Consider the impact on quality of life
10. Use handouts and websites

“A teacher is one who makes him or herself progressively unnecessary”

joseph.lam@cw.bc.ca

The end

Any questions?



Lynde C et al. J Cutan Med Surg. 2019 May/Jun;23(3_suppl):3S-13S.

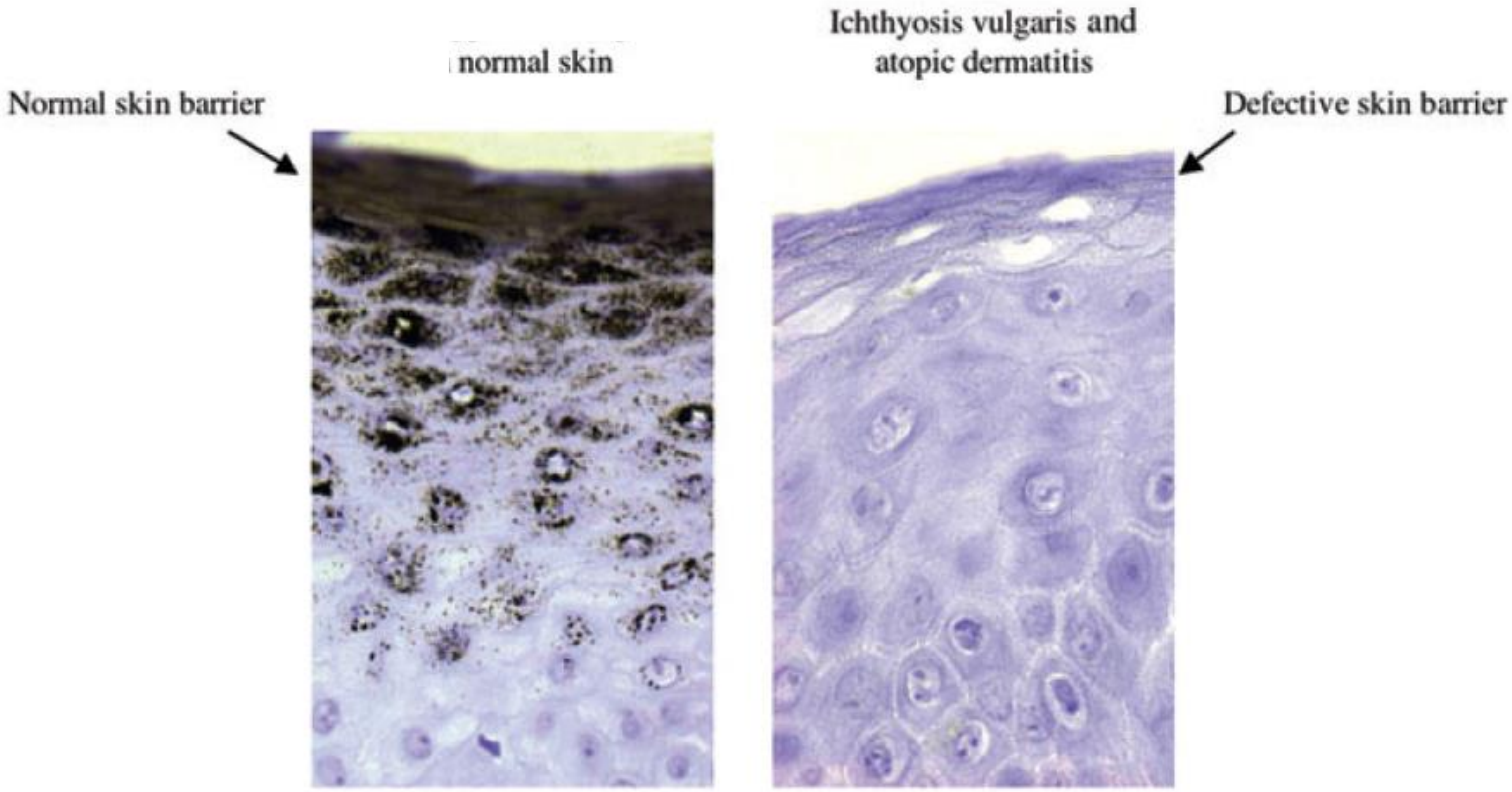
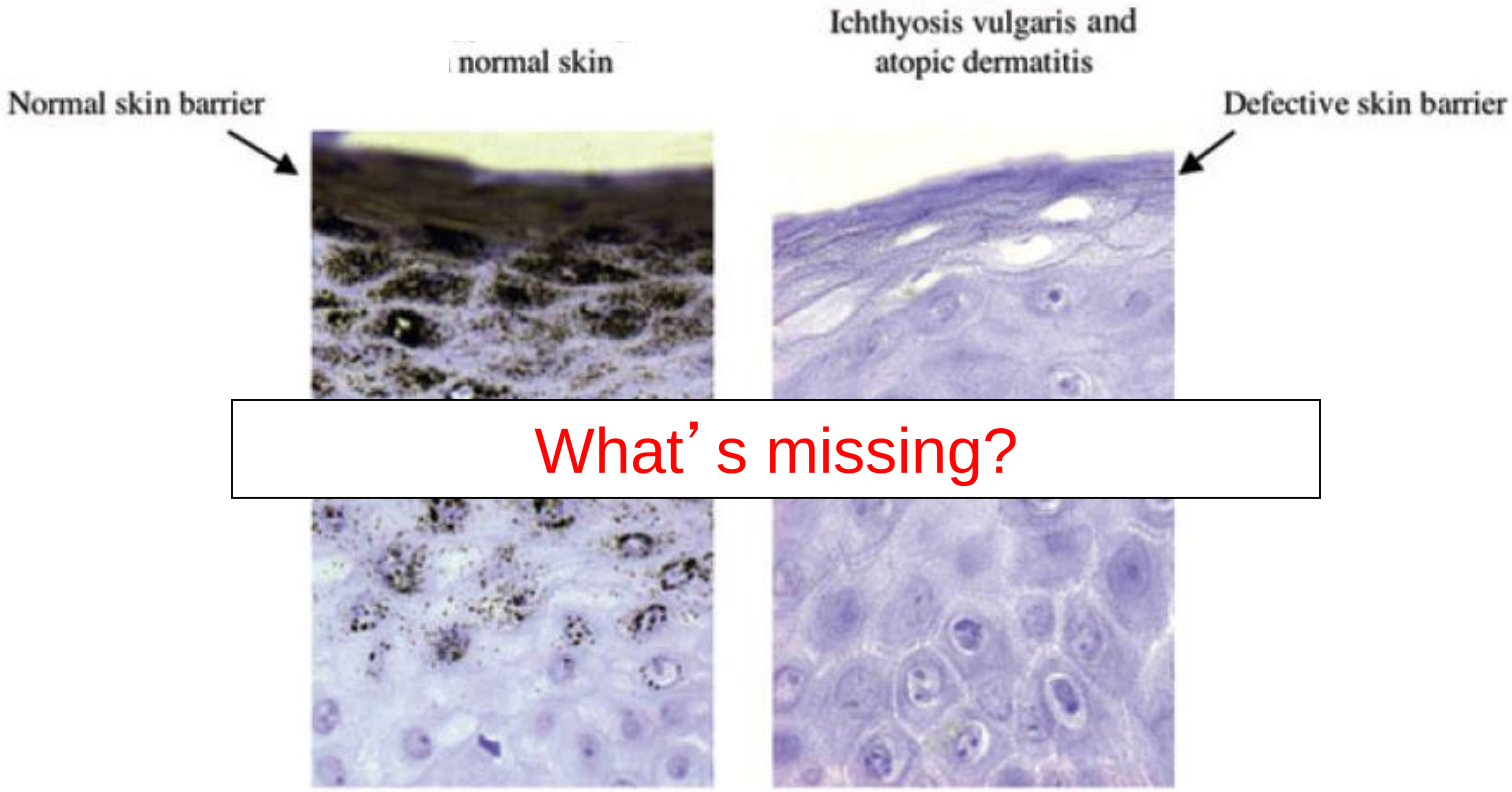


Figure 1.

Irvine AD, McLean WH. J Invest Dermatol. 2006 Jun;126(6):1200-2.



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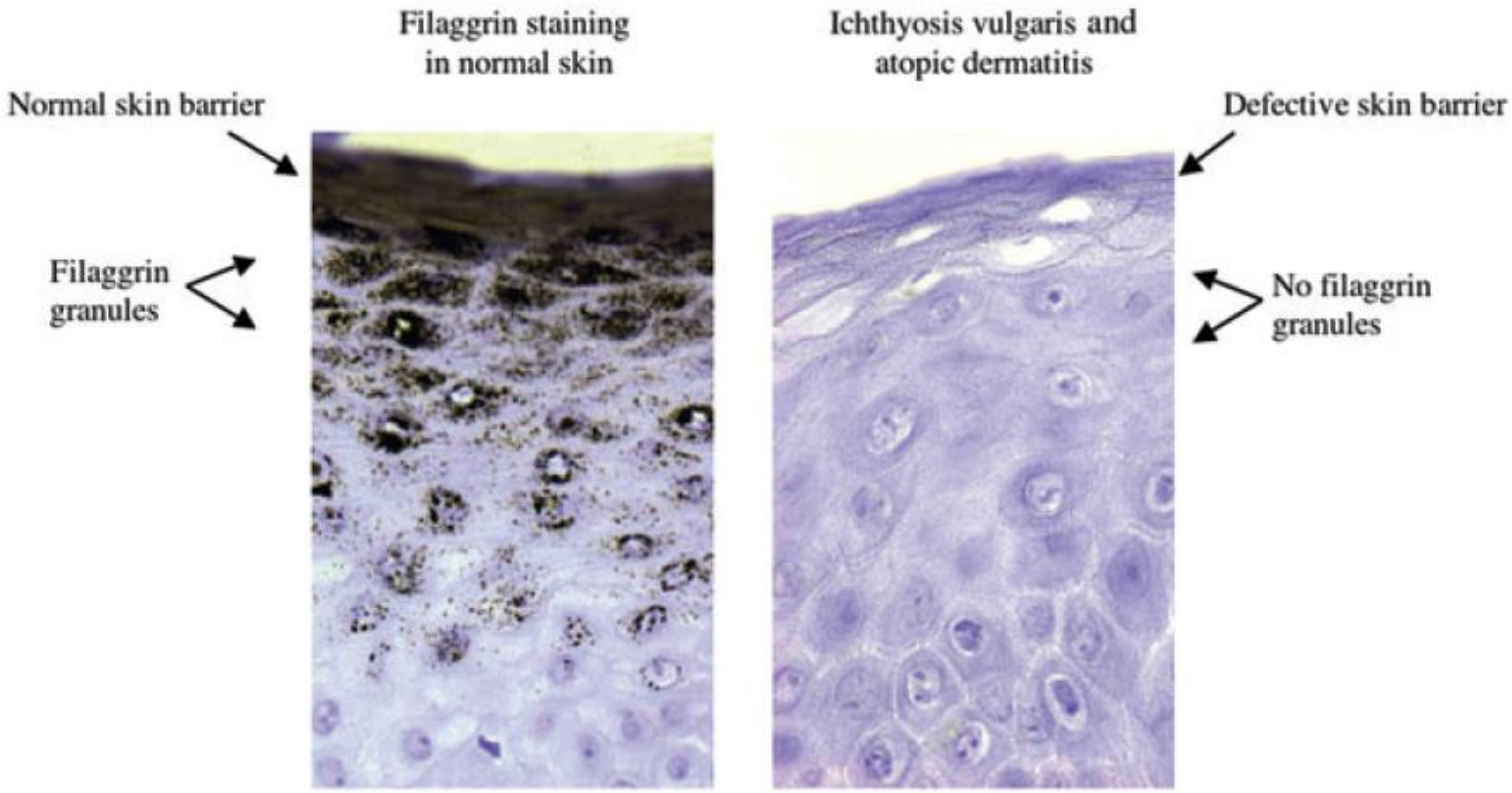
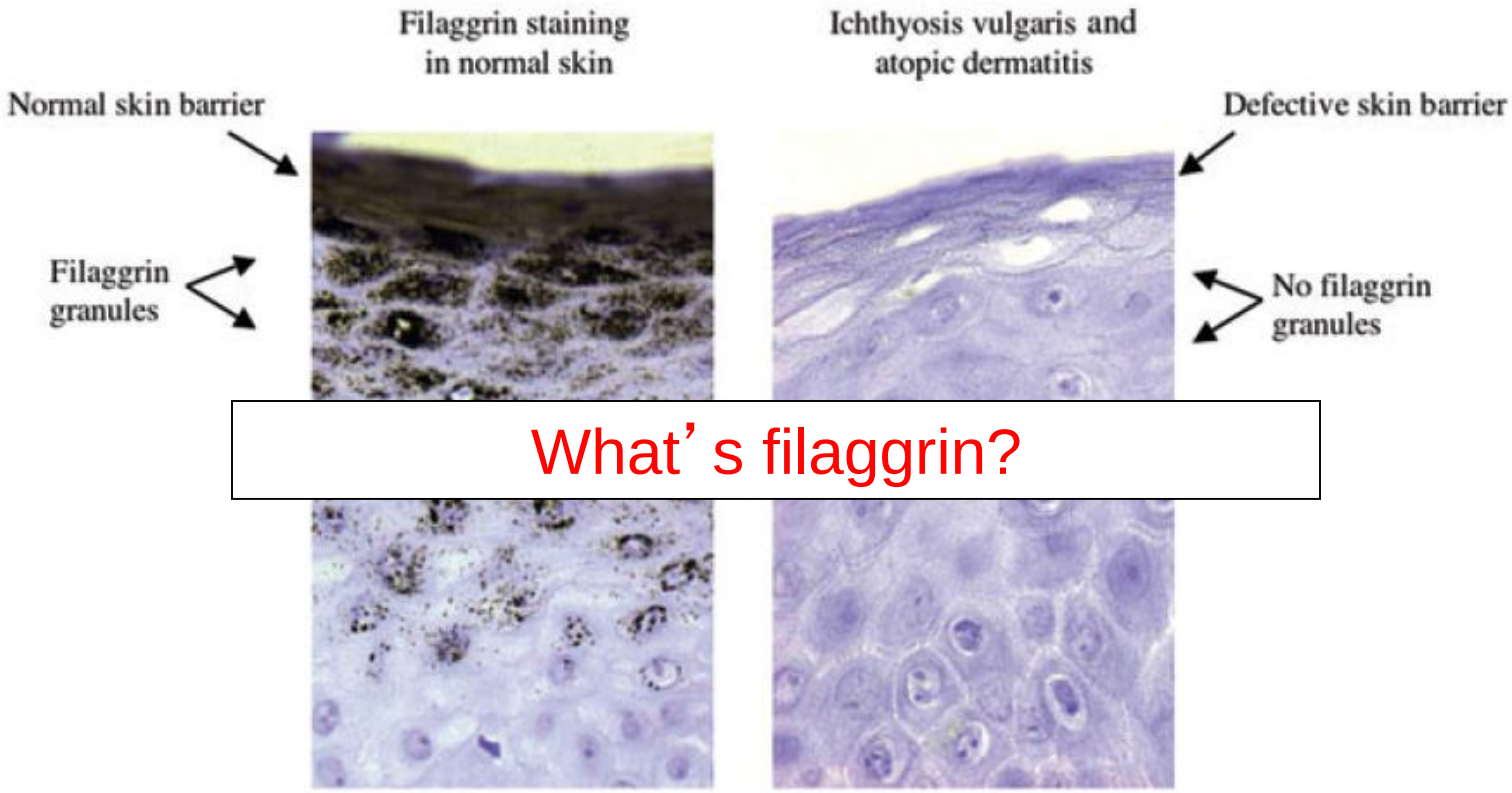


Figure 1. Homozygous *FLG* mutations lead to complete loss of filaggrin expression in skin.

Irvine AD, McLean WH. J Invest Dermatol. 2006 Jun;126(6):1200-2.



What's filaggrin?

Figure 1. Homozygous *FLG* mutations lead to complete loss of filaggrin expression in skin.

Irvine AD, McLean WH. J Invest Dermatol. 2006 Jun;126(6):1200-2.

April 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1 	2 
3 	4	5	6	7	8	9 
10	11	12	13 	14	15	16 
17	18 	19	20	21	22	23 
24	25	26	27	28	29	30