

Eat, Poop, Sleep and Pray: Pediatrics with PEER

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1

Objectives



1. Summarize the evidence for common pediatric clinical issues including PPI for crying babies, baby-led weaning, sleep training, peanut allergy, and acne management.



2. Discuss recent clinical trial relevant to caring for the pediatric population.



3. Apply up-to-date evidence in managing pediatric presentations.



2

2

Presenter Disclosure: Samantha Moe

- Relationships with Financial Sponsors: Paid employee of the CFPC
- Any direct financial relationships including receipt of honoraria: RxFiles, North York General
- Membership on advisory boards or speakers' bureau: None
- Patents for drugs or devices: None
- Other financial relationships or investments: None

Presenter Disclosure: Jen Potter

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- Any direct financial relationships including receipt of honoraria: RxFiles honorarium
- Membership on advisory boards or speakers' bureau: nope
- Patents for drugs or devices: nope
- Other financial relationships or investments: nope

Presenter Disclosure: Betsy Thomas

- Relationships with Financial Sponsors: none
- Any direct financial relationships including receipt of honoraria: PEIP by PEER, Northern Health (BC)
- Membership on advisory boards or speakers' bureau: None
- Patents for drugs or devices: None
- Other financial relationships or investments:
paid employee of the CFPC



5

5

Meet Gus: 2 months old



CC: Gus “spits up constantly, with almost every feed! My Facebook mom group says there’s a baby med that can help. What do you think?”

HPI: Bottle-fed breast milk, 80-100ml q3h

- Regurgitation with almost every feed; Fussy and crying after feeds but settles within 5-10 mins. Meeting milestones.

ROS: Sleeps on back; reg wet diapers & BMs.

O/E: Smiling, alert & active; growing well: 50th percentile weight/ length.

P/E: CVS-reg, chest clear; abd soft.



6

6

Crying Babies: Can PPIs help?

Two main RCTs: 4-week duration

162 infants (median: 4mo) crying within 1h of $\geq 25\%$ of feeds. Lansoprazole vs placebo:

- $\geq 50\%$ reduction feeds with crying or episode duration: 54% each, NSS
- Crying, regurgitation, feed refusal, back arching: NSS
- SAE: 12% vs 2.5% placebo (RTI), NNH=10

30 infants (mean: 5mo) frequent crying, biopsy-confirmed. Omeprazole vs placebo:

- Crying/fussing, irritability: NSS

H2-antagonists: No placebo-controlled RCTs;

- Compared with PPI: NSS

Other evidence? Four withdrawal RCTS (8-268 infants, 1-11 months).

- Open-label tx PPI or H2RA x 1-4 weeks. Responders randomized to continue drug or placebo.
- Vomiting, regurg, irrit, feeding difficulties, symptoms, AE: NSS; weight: NSS



Bottom Line: PPIs do not improve crying, fussiness, irritability or regurgitation attributed to feeds. However, PPIs increase risk of serious AE (e.g., RTIs) (from 2.5% to 12%) at 4 weeks.

Saada, et al. TPF #340, May 14, 2023.

7

7

Gus has no red flags. (growth/developmental delay; vomiting forceful/bilious/bloody; bloody stool. Abdominal distention or abnormal neurologic signs.)



Assessment: Physiologic reflux.

Plan: Reassurance & education—

- Regurgitation is normal. Affects 40% of infants, peaks at 3-4mo, 90% will have resolution by age 1 or earlier.
- PPIs do not improve these symptoms and have harms.

8

Plan: If parents want more, guidelines suggest

- Keep upright for 20-30min post feed; burping
- Check if overfeeding – smaller less frequent feeds
- Optional: Thickened feeds with infant cereal (larger bottle nipple)
- But the evidence for these options is limited.



Two months later...

Mom brings Gus in for his 4-month well baby visit. He is growing well, meeting his milestones, and examines normally.

Mom thinks he is getting ready for solid foods and is wondering how to introduce them.

Her friend told her to let the baby lead the way...



TFP 246: Does Baby Know Best? June 1, 2020



Bottom line: Transitioning infants to solid foods using a baby-led weaning approach (with parental education) results in up to 0.7kg less weight gain at 12 months than traditional spoon feeding. This is of unknown clinical significance. There is no difference in iron intake or choking episodes.

Baby-led weaning



- Promotes infant self-feeding
- Infant feeds themselves appropriately-sized pieces of food



Kirkwood J, Liu S, Manchuk E, et al. Tools for Practice 265. 2020. 11

11

TFP 265 Evidence



Two RCTs:

- N=206, age 6 months; after 12 and 24 months...
 - No difference in BMI, iron intake, hemoglobin, choking events
 - Limitations: not blinded, BLW group received additional educational contacts, resources
- N=280, age 5-6 months; after 12 months...
 - BLW gained 0.7 kg less than spoon-fed infants
 - No difference in iron intake, hemoglobin, choking events
 - Limitations: not blinded, BLW group had more educational/home visits



Kirkwood J, Liu S, Manchuk E, et al. Tools for Practice 265. 2020. 12

12

Since 2020...



3 new relevant SRs, 1 new RCT since TFP published in 2020

RCT: Arslan 2023

- Turkey; term breast-fed babies at 4-6 months, n=73
- Parents provided education on complementary feeding: BLW or traditional



Bottom Line: At 12 months, no difference in risk of choking episodes, anemia, weight/height



Arslan N, Kurtuncu M, Turhan PM. J Pediatr Nurs. 2023;73:196-203. 13

13

Since 2020...



SR: De Prete 2025

- 3 cross-sectional studies
- Conflicting results relating to language skills

SR: Correia 2024

- 4 RCTs, 3 cross-sectional studies
- No difference in choking risk with BLW compared to traditional spoon-feeding

SR: Babik 2021

- 1 RCT, 1 prospective cohort, 1 case-control, 2 cross-sectional studies
- No difference in fussiness/picky eating after 1 year of age



Bottom Line: observational data shows conflicting results on language; no difference in choking risk or pickiness



Di Prete A, Galloway AT, Farrow C, et al. Curr Nut Rep. 2025;14:104.
Correia L, Sousa AR, Captao C, et al. J Pediatr Gastroenterol Nutr. 2024;79(5):934.
Babik K, Patro-Golab B, Zalewski BM, et al. Nutr Rev. 2021;79(11):1236. 14

14

So...



Bottom line:

- No substantial difference in bottom line compared to 2020
- BLW with parental education probably results in less wt gain at 12 mo compared to traditional spoon feeding, but this is of questionable clinical significance. No difference in iron intake, choking episodes, or later pickiness.



You tell Mom that BLW seems like a reasonable choice for Gus, but you have no compelling reason to promote it over a traditional approach.

Still at 4 months...

Now that Mom has some ideas on introducing solids, she has one more concern about feeding...

Gus's older brother is allergic to peanuts. It's a constant source of worry to them and they are wondering if there's anything they can do to keep Gus from having the same problem...



TFP 197: Early Peanuts for Little Peanuts. Oct 16, 2017



Bottom line: Early peanut introduction reduces the risk of developing peanut allergy in high-risk infants from 17% to 3% at five years. Normal risk infants may also benefit. Since 9% of high-risk infants were excluded due to a positive baseline skin prick test (SPT), it may be reasonable to investigate those at highest risk prior to exposure.



Canadian Pediatric Society 2021: High-risk infants should be introduced to allergenic foods at ~6 months, with regular ongoing ingestion.



Perry D, Korownyk C. Tools for Practice 197. 2017. Abrams EM, Orkin J, Cummings C, et al. Paediatr Child Health. 2021;26(8):504-505.

17

17

Since 2017... SM1



RCT: follow-up of 2015 study to age 12

- Original study: high-risk infants age 4-11 months, n=640, randomized to consumption (6 g/week) or avoidance of peanuts
 - At 5 years: 17.4% of avoidance group versus 3.2% of consumption group had peanut allergy
- After age 5, non-allergic participants consumed peanuts at will
- At age 12, 496 participants were assessed for peanut allergy status
 - Avoidance group from original study: 15.4% had peanut allergy
 - Consumption group from original study: 4.4% had peanut allergy
- Safety
 - 2 received epinephrine during oral food challenge
 - 1 hospitalized overnight for prolonged vomiting



Bottom Line: Reduction in peanut allergy risk after early consumption of peanuts persists throughout childhood.



Du Toit G, Huffaker MF, Radulovic S, et al. NEJM Evid. 2024;3(6):EVIDoa2300311.

18

18

Slide 18

SM1 Suggest to put this follow study first after the TFP, then the SR.
Samantha Moe, 2025-11-03T14:49:38.539

Since 2017...



- **4 new relevant SRs**
- **Newest, most comprehensive SR with meta-analysis**
 - Early (before 12 months) versus delayed introduction (after 12 months) of allergenic foods
 - For peanuts: 3 RCTs, n=4183, mean follow-up 3 years
 - Both high- and average-risk infants
 - Early introduction: 1.4% developed peanut allergy
 - Later introduction: 4.4% developed peanut allergy
 - Moderate certainty evidence



Bottom Line: Introducing peanuts before age 1 reduces risk of peanut allergy from ~4% to ~1% after 3 years amongst infants in general (regardless of risk).

So...

Bottom line:

- No significant difference in bottom line compared to 2017
- Early introduction of peanuts reduces the risk of peanut allergy, and that reduced risk persists throughout childhood



You recommend that Mom introduce peanut-based foods to Gus starting at 6 months, with ongoing exposure (6 g/week). Although it's tricky with Gus's brother in the house, the family is able to make it work.

During the same visit...

Mom says “While I am here, is there anything I can do for Gabriel’s peanut allergy? I worry about him consuming peanuts accidentally. Also, we are a peanut butter loving family, so it’s been hard....”

Background: Gabriel is Gus’s 3.5-year-old brother who has an allergy to peanuts since he was 6 months old. His mom carries an EpiPen everywhere they go.



21

Oral Immunotherapy for Peanut Allergies

Building tolerance through controlled allergen exposure



Systematic Review

8 RCTs, N=1,414

Ages 3-12 years

Duration: 6-24m

Max dose: 125-2000mg

Outcomes

Desensitization:
68% vs 5% (placebo)

Remission:
29% vs 4% (placebo)

Adverse Events

GI disorders:
78% vs 38%
(placebo)

Epinephrine use:
13% vs 3%

Bottom Line: Peanut oral immunotherapy appears to work with over 60% more children achieving desensitization and 25% achieving remission but adverse events need to be considered. Length of effect unknown

1. Clin Transl Allergy. 2023;e12268; 2. Cochrane Database of Systematic Reviews 2018, Issue 4. Art. No.: CD010638. 3. International archives of allergy and immunology,1-14.12 Sep. 2025

22

Plan:

Mom wonders about the cost of immunotherapy:

- ~\$60-80 per month for oral capsules (some plans will cover)
- Mom is interested in exploring this option, so you send in a referral for an allergist for Gabriel



23

Gus, six months in....

Mom brings Gus in at 6 months for his well baby visit and complains that he is not sleeping through the night and she is exhausted. She feeds him to get to sleep as he is fussy going down and he wakes up at least 2 times during the night.

She asks if there is anything she can do...



24

Infant Sleep Training

Two large RCTs, n=235-328, age 7 months, with “infant sleep problems”

1. 6-week RCT: sleep training (compared to safety education) reduced:
 - Severe sleep problems 4% vs 14%, NNT=10
 - # with >2 awakenings/night: 31% vs 60%, NNT=4

2. Cluster RCT. Sleep intervention (training) compared to usual care @ 10 months:
 - ↓ Infant sleep problems: 56% vs 68%, NNT=9
 - ↓ Mom’s with depression: 28% vs 35% (NSS)

At 2 years: reduced depressive symptoms 15% vs 26%, NNT=9

At 5 years: no diff in any outcome: child behaviour, mom mental health...

TFP #160, April 11, 2016. 25

25

Infant Sleep Training: since 2016

1 RCT, n=43 infants, ~11 months

Graduated extinction vs Bedtime fading vs education @ 3-month follow-up:

Sleep Outcome	Graduated Extinction	Bedtime Fading	Control	Clinical Meaning
Sleep latency	↓ 13 min	↓ 10 min	No change	Falls asleep faster
Awakenings	↓ large (d = 1.98)	No change	No change	Wakes far less often
WASO	↓ 44 min	↓ 25 min	↓ 32 min	Stays asleep longer
Total sleep time	↑ 19 min	↑ 5 min	↑ 22 min	Slightly longer, more consolidated sleep

Maternal stress: improvements in all groups @12 months, but initially significant improvements over first month compared to control

Maternal mood & Child attachment/emotional or behavioral problems: No difference.



Bottom Line: Sleep training improves infant sleep problems with about 1 in 4 to 1 in 10 benefitting over no sleep training, with no adverse effects reported after 5 years.

PEDIATRICS Volume 137, number 6, June 2016: e2 0151486

26

Plan:

You provide mom with some pamphlets on sleep education and the evidence on sleep training. You suggest putting Gus down and not returning for 2-5 minutes to respond to his crying then lengthening the interval.

Mom states she will discuss sleep training with Gus' dad and will likely give it a try as she needs her sleep back!



27

Uh oh!

Four-year-old Gus was jumping on a trampoline and hurt his leg! He is in the ED, but his leg really hurts. Mom asks if you can give him something for pain.



28

28

TFP 14: Optimal Pain Relief for Acute Pediatric MSK Injuries. Nov 16/09, updated July 13/16



Bottom line: Current evidence suggests that ibuprofen provides better single-agent relief than acetaminophen or codeine and is at least equivalent to both acetaminophen with codeine and morphine for acute injury related pediatric pain, with fewer adverse events.



- Codeine not recommended under age 18
- NSAIDs do not appear to impact fracture healing

29

Since 2016...

Focused on newest comprehensive systematic review:

- Age 0-17 in ED/UC/outpt clinic
- Any pharmacologic intervention

Results: 41 trials, n=4935

- 25 trials with MSK pain
- 35 trials in ED
- Mean age 9.7 years
- Mean baseline pain 6.9/10



30

Since 2016...



Pain relief

*All moderate to high certainty evidence

- 33 trials, n=3482
- NSAIDs, opioids, ketamine effective

Need for further medication

- 13 trials, n=1525
- NSAIDs most effective
- Opioids, ketamine least effective

Symptom relief (complete pain relief or mild pain)

- 8 trials, n=1310
- NSAIDs, acetaminophen, opioids not better than placebo

Since 2016...

Adverse events

- Not stated which trial reported which a/e

GI

- NSAIDs, acetaminophen not worse than placebo
- Low to very low certainty:
 - Ketamine likely worse than placebo
 - ?Similar to placebo: opioids, tramadol

Neurologic, dermatologic

- Low to very low certainty:
 - NSAIDs, acetaminophen, opioids, ketamine, tramadol



So...

Bottom line:

- No substantial difference in bottom line compared to 2009
- NSAIDs most effective and well-tolerated
- Acetaminophen less effective, but well-tolerated
- Opioids and ketamine effective by some measures, but limited evidence on tolerability



You give Gus (20kg) ibuprofen 150 mg PO and he feels better though his leg still hurts; when offered more medication, he declines it. His tummy feels fine. Once the cast is on his leg, he feels much better!

Preschool visit

Gus and mom come in. Gus (4yo) has had atopic dermatitis since he was 3 years old which has been managed well with moisturizers and skin care (e.g. adding oatmeal into his bath). However, this winter it has really flared up.

Current medication: OTC Hydrocortisone 1% cream prn

On exam: Eczematous type rash inside elbows and backs of knees.



Atopic Dermatitis: Bathing

- **Frequency:** Cross-over RCT 42 Kids, twice daily vs twice weekly baths x 2 weeks:
 - Patients $\geq 30\%$ AD improvement: 58% BID vs 15%, NNT=3. Mean score improved 21 more (from 42).
- **Showers:** 1 non-random trial & 1 cohort³: Adding daily shower improved kids AD scores.
- **Bleach Baths:** AD, 4 RCTs (116 pts), bleach (5-10 mins, 2x/wk) vs regular bath, x4 wks:
 - No significant difference in AD scores/area, or eradication of staph colonization
- **Bleach baths:** AD + clinical bacterial infection: Cross-over RCT (40 pts) – No diff in AD.
 - RCT (22 patients): Reduction in AD score of submerged sites (also got nasal mupirocin & more severe).
- **Additives** (like *Oilatum* or *Aveeno*): RCT (482 children), x1 yr: No benefit.
- **Water Softener:** RCT (336 children): In hard-water area x12 weeks: No difference.

TFP #293. June 2021 35

35

Atopic Dermatitis: Bathing



Bottom Line: In AD, more frequent baths (and likely showers), 1-2/day, improve symptoms meaningfully (with moisturizers after bath/showers). Despite advocacy, research does not support bleach baths, bath additives or water softeners for AD symptoms.

TFP #293. June 2021 36

36

Atopic Dermatitis: Corticosteroids

- 4 Systematic Reviews in past 10 years
- Versus vehicle/moisturizer:
 - Responder data (not compared statistically): 65% vs 32% (vehicle/moisturizer)
 - 2-days/week (“weekend therapy”) fluticasone 0.005-0.05% versus vehicle, for prevention:
 - ≥ 1 flare over 16-20 weeks (4 RCTs, n=718): 28% vs 61% vehicle, NNT=3
- Lower vs higher potency:
 - Mild vs more potent steroids, marked improvement at 1-5 weeks:
 - 34% (mild) versus 52% (moderate) (4 RCTs, 449 patients), NNT=6.
 - 39% (mild) versus 71% (high) (9 RCTs, 458 patients), NNT=4
 - Moderate or high potency steroids versus more potent. Results mixed:
 - Marked improvement 1-5 weeks, between-participant trials: No difference
 - Within same-participant trials: Appears higher potency better, statistics not interpretable.

TFP #359 February 2024

37

Atopic Dermatitis: Corticosteroids

- Once versus twice daily, using same steroid: No difference (5 RCTs, n=903)
- Adverse events, limited information. Short-term (2-6 weeks):
 - Eczematous skin, skin thinning in <1% of patients on placebo/steroid (35 RCTs, n=3576).



Bottom Line: Evidence limited but topical corticosteroids are effective for atopic dermatitis and efficacy likely increases with potency. Once daily seems similarly effective to twice daily. Topical corticosteroids are well-tolerated for ≤ 6 weeks. Long-term harms are not available.

TFP #359 February 2024

38

TOPICAL CORTICOSTEROIDS: Comparison Chart							L. Regier BSP © www.RxFiles.ca July 2025						
DRUG/STRENGTH (grouped by formulation & potency)		BRAND NAME	Potency & Cost/30g		SIZE / COMMENTS	DRUG/STRENGTH (grouped by formulation & potency)		BRAND NAME	Potency & Cost/30g		SIZE / COMMENTS		
			1	2	3	4	5	6	7				
			HIGHER		LOWER				HIGHER		LOWER		
<p>CREAMS → cause less occlusion; suitable for non-acute/wet lesions, intertriginous areas; cosmetically acceptable</p>													
Clobetasol propionate 0.05% *		DERMOVATE, g	\$19								15,50,45g	PG	
Halobetasol propionate 0.05%		ULTRAVATE X ▼	\$50								50g		
Betamethasone dipropionate glycol 0.05%		DIPROLENE GLYCOL, TOPILENE GLYCOL PB	\$28								15,50g	PG, †	
Desoximetasone 0.25%		TOPICORT PB, w/s	\$34								20,60g	†	
Fluocinonide 0.05%		LYDERM, TIANOLFA ▼ LIDEMOIL (2-in-1 emollient base)	\$19								60,100g	PG, †	
Betamethasone dipropionate 0.05%		DIPROSONE, g (PSE); LOTRIDERM (†2% clotrimazole, oil)	\$18								15,50g	†	
Amcinonide 0.1%		CYCLOCORT (tacrolimus/garben/PS/tartaric acid/urea free), g	\$24								15,30,60g	OH, †	
Beclomethasone dipropionate 0.025%		PROPADERM	\$26								45,120g	OH	
Clobetasone butyrate 0.05% (OTC)		SPECTRO ECZEMA CARE w/s Camovate; "OTC behind counter"	\$15								30g		
Desoximetasone 0.05%		TOPICORT MILD PB, w/s, DESOXI	\$26								20,60g	†	
Mometasone furoate 0.1%		ELOCOM, g (apply daily)	\$29								15,50g	PG	
Triamcinolone acetonide 0.1%		TRADERM, ARISTOCORT R A-ery	\$14								30,500g	PG	
Betamethasone valerate (FUOCIBET; beta 0.1% + fusidic acid 2W*)		BETADERM, CELESTODERM V/2 PG, ECOSONE MILD PB, g	\$13								15,~450g	† low cost	
Hydrocortisone valerate 0.2%		HYDROVAL w/s	\$17								15,45,60g	PG, †	
Prednicarbate 0.1%		DERMATOP X ⊕	\$88								20, 60g		
Desonide 0.05%		DESOCORT, POP-DESONIDE	\$23								60g	PG	
Hydrocortisone 2.5%		SANDOZ HYDROCORTISONE	\$23								45, 225g	daily QID	
1% (OTC)		HYDERM, EMO-CORT, g (+ 10% urea***)	\$8								15,450g	low cost	
0.5% (OTC)		HYDERM, CORTATE, g	\$9								15g	low cost	

RxFiles Topical Corticosteroid Comparison Chart



TOPICAL CORTICOSTEROIDS: Comparison Chart										
DRUG/STRENGTH (grouped by formulation & potency)		BRAND NAME	Potency & Cost/30g		SIZE / COMMENTS					
			1	2	3	4	5	6	7	
			HIGHER		LOWER					
<p>CREAMS → cause less occlusion; suitable for non-acute/wet lesions, intertriginous areas; cosmetically acceptable</p>										
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Halobetasol propionate 0.05%		ULTRAVATE X ▼	\$50						50g	
Betamethasone dipropionate glycol 0.05%		DIPROLENE GLYCOL, TOPILENE GLYCOL PB	\$28						15,50g	PG, †
Desoximetasone 0.25%		TOPICORT PB, w/s	\$34						20,60g	†
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Betamethasone dipropionate 0.05%		DIPROSONE, g (PSE); LOTRIDERM (†2% clotrimazole, oil)	\$18						15,50g	†
Amcinonide 0.1%		CYCLOCORT (tacrolimus/garben/PS/tartaric acid/urea free), g	\$24						15,30,60g	OH, †
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Mometasone furoate 0.1%		ELOCOM, g (apply daily)	\$29						15,50g	PG
Triamcinolone acetonide 0.1%		TRADERM, ARISTOCORT R A-ery	\$14						30,500g	PG
Betamethasone valerate (FUOCIBET; beta 0.1% + fusidic acid 2W*)		BETADERM, CELESTODERM V/2 PG, ECOSONE MILD PB, g	\$13						15,~450g	† low cost
Hydrocortisone valerate 0.2%		HYDROVAL w/s	\$17						15,45,60g	PG, †
Prednicarbate 0.1%		DERMATOP X ⊕	\$88						20, 60g	
Desonide 0.05%		DESOCORT, POP-DESONIDE	\$23						60g	PG
Hydrocortisone 2.5%		SANDOZ HYDROCORTISONE	\$23						45, 225g	daily QID
1% (OTC)		HYDERM, EMO-CORT, g (+ 10% urea***)	\$8						15,450g	low cost
0.5% (OTC)		HYDERM, CORTATE, g	\$9						15g	low cost

Atopic Dermatitis: Calcineurin inhibitors

Tacrolimus (Protopic); Pimecrolimus (Elidel); tacrolimus 0.1% superior to 0.03% with similar AE's

Four MA	RCTs /patients	Improvement eczema symptom		Notes
		CNI	Vehicle/steroid potency	
Tacrolimus 0.1%	2 RCTs; n=460	48-67%	16-38% (vehicle/low)	NNT 3-4 at 3wks
	2 RCTs; n=1540	73-93%	52-88% (mod-high)	4 RCTS (n=513): no diff at 2-44 wks
Pimecrolimus 1%	8 RCTs; n=2298	44%	22% (vehicle)	NNT 5 at 6wks
	1 RCT; n=2418	53%	51% (mild-moderate)	No difference
	2 RCTs, n=745	37-53%	69-88% (mod-high)	NNT 3-4 at 3wks favoring steroids
"Good response" (3 RCTs, n=543)		Tacrolimus 35%	Pimecrolimus 19%	NNT 7 at 2-6wks Network MA: no diff

TFP #345, July 2023 ⁴¹

41

Atopic Dermatitis: Calcineurin inhibitors

- AE's: skin burning 30% vs 9% (steroid), NNH=4
- Cost (30g): Tacro 0.1% ~\$103 vs betamethasone 0.1% ~\$13



Bottom Line: For improvement of AD, tacrolimus 0.1% is at least equivalent to moderate potency topical steroids. Pimecrolimus is better than placebo but likely inferior to moderate potency steroid and tacro 0.1%. Burning skin more common early (30-50% users; but tapers for most).

TFP #345, July 2023 ⁴²

42

Plan:

1. Bathe at least once per day. No evidence for oatmeal. Pat dry and moisturize immediately afterwards.
2. Rx for betamethasone valerate 0.1% cream once daily until improved then prn.
3. Follow-up in clinic in 1 month or earlier if worsens.



The Teen Years: Gus, 13

CC: “He’s had acne for about 3 months. We bought some products to try but doesn’t seem to be working. Can you suggest something ... but not too expensive?”



HPI: Using benzoyl peroxide-containing facewash and 5% gel BID x 4 weeks.

O/E: Diffuse pustules and comedones. No nodules, cysts, scarring or hyperpigmentation. Chest/back/shoulder – clear.

Topical Acne Treatment: Combination therapy

Moderate facial acne, 12-week follow up, mean: 16-19y

2 RCTs, n=2187	Marked/complete improvement	Adv Effects*	2 RCTs, n=3311	Clear/almost clear	Adv Effects
Adapalene + BPO	48%	27%	Clinda + BPO	38%	NSS
Adapalene	42%	19%	Clinda	30%	
BPO	37%	11%	BPO	30%	
Vehicle	27%	8%	Vehicle	17%	

*AE = stinging, erythema, dryness, scaling



Bottom Line: BPO combined with adapalene or clindamycin result in 40-50% of patients having complete/near complete acne improvement (vs 30-40% using individual agents, NNT=10-17). More AE with adapalene-containing products (20-30% vs ~10%).



Fritsch et al. TFP #288, April 19, 2021

45

45



Newer Topical Treatments?



DB, industry-funded RCTs, mean=19-20yo with moderate acne

Tretinoin + Clindamycin (Biacna®)

Vs Monotherapy: 2 RCTs¹ (n=2540), 12w

- Clear/almost clear: 21% combo vs 14-16% monotherapy, NNT=14-20
- Tolerability similar

Vs BPO/adapalene:²

DB RCT (n=24): More burning/stinging with BPO/adapalene¹ at 3 weeks but no diff in dryness, scaling, redness.

- (funded by Medicis)

BPO + adapalene + clindamycin (Cabtreo®)

- n=740;³ Triple vs 'dual' vs vehicle x 12wk
- Tx success: 53% (triple) v 28-30% (dual) vs 8%; NNT 3-5
- Site pain: (8-11% triple, adap/BPO vs 1-3%); Dryness w/adapalene products (~6% vs 0-1%)

Bottom-Line: Triple therapy resulted in more patients achieving treatment success (53% vs 28-30% dual) but more site pain and dryness.



1. Schlessinger et al; J Drugs Derm 2007; 6(6): 607-15. 2. Goreski 2012; 11(12): 1422-6. 3. Gold et al. Am J Clin Derm 2022; 23:93-104.

46

46



Assessment: mild-moderate acne.

Formulation	Freq	Cost/Availability
BPO + clindamycin	QHS-BID	\$43-44 (generic)
BPO + adapalene	QHS	\$70 (generic)
Tretinoin + clinda	QHS	\$106 (Bianca), no generic
BPO + clinda + adapalene	QHS	\$172 (Cabtreeo), no generic

Plan:

1. Gentle cleansers, 1-2x per day and non-comedogenic moisturizer.
2. Clindoxyl QHS then BID. Counsel irritation, redness, dryness. Onset 2-4 weeks but continue x 2-3 months.
3. RTC in 3 months. If acne persist, consider oral antibiotic; triple topical also an option.

Bottom Line Summary

1. **PPIs for physiological reflux:** do not improve crying, fussiness, irritability or regurgitation attributed to feeds. However, PPIs increase risk of serious AE (e.g., RTIs) (from 2.5% to 12%) at 4 weeks.
2. **Baby-led weaning,** with parental education, probably results in less wt gain at 12 mo compared to traditional spoon feeding, but this is of questionable clinical significance. No difference in iron intake, choking, or pickiness.
3. **Early peanut introduction** reduces risk of peanut allergy, and that reduced risk persists throughout childhood.
4. **Peanut oral immunotherapy** appears to work with over 60% more children achieving desensitization and 25% achieving remission but adverse events need to be considered. Length of effect unknown.
5. **Sleep training** improves infant sleep problems with about 1 in 4 to 1 in 10 benefitting over no sleep training. No adverse effects reported after 5 years.
6. **For acute injury-related pediatric pain:** ibuprofen provides better single-agent relief than acetaminophen or codeine and is at least equivalent to both acetaminophen with codeine and morphine with fewer AE.

Bottom Line Summary

For **atopic dermatitis**:

6. More frequent **baths** (and likely showers), 1-2/day, improve symptoms meaningfully (with moisturizers after bath/showers). Research does not support bleach baths, bath additives or water softeners.
7. **Topical corticosteroids** are effective and efficacy likely increases with potency. Once daily seems similarly effective to twice daily. Topical corticosteroids are well-tolerated for ≤6 weeks. Long-term harms are not available.
8. **Calcineurin inhibitors**: Tacrolimus 0.1% is at least equivalent to moderate potency topical steroids. Pimecrolimus is better than placebo but likely inferior to moderate potency steroid and tacro 0.1%. Burning skin more common early (30-50% users; but subsides for most).
9. **For mild-moderate acne**, BPO combined with adapalene or clindamycin result in 40-50% of patients having complete/near complete acne improvement (vs 30-40% using individual agents, NNT=10-17). More AE with adapalene-containing products (20-30% vs ~10%).

Gus is graduating high school!

*Gus is eating like a champ.
Sleeping through the night.
Spreading peanut butter.
Enjoying smooth clear skin.
MSK injuries – just a distant memory.*





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51



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52