### Alert
Unrestricted: Any prescriber can initiate and manage treatment consistent with this guideline. Do not use non-pharmaceutical grade products on newborn infants. 
*This document is a draft and has not been approved by ANMF group.*

### Indication
Used to maintain and improve skin integrity in preterm infants < 28 weeks gestation.

### Action
Coconut oil has a moisturising effect when applied to the skin.

### Drug type
Purified coconut extract (cocus nucifera): high in saturated fat particularly medium chain triglycerides

### Trade name
- TUTU Baby oil
- COSI2 trial coconut oil

### Presentation
- TUTU Baby oil 5 mL sachets
- COSI2 trial coconut oil 4 mL sachets

### Dose

<table>
<thead>
<tr>
<th>Gestation</th>
<th>Dose</th>
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<tr>
<td>≤ 25 weeks gestation</td>
<td>1 sachet FOUR times a day for the first week of life, then 1 sachet TWICE daily as below</td>
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<td>&gt;25 weeks gestation</td>
<td>Infants in an incubator: 1 sachet TWICE daily. Infants out of an incubator: 1 sachet ONCE daily. Applications should coincide with routine care. Start within 24 hours of birth and continue until transfer to other hospital OR discharge home.</td>
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### Dose adjustment

<table>
<thead>
<tr>
<th>Route</th>
<th>TOPICAL</th>
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<tr>
<td>Preparation</td>
<td>Use direct from sachet.</td>
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### Administration
Prior to Application:
- Perform Hand Hygiene as per protocol.
- Coconut oil can be applied without gloves (provided infant and nurse/carer skin is intact).
- Anti-staphing is not a contraindication to applying coconut oil. It may be applied before or after an anti-staphing procedure.

Application:
- The parents should apply the coconut oil to their infant’s skin if they wish, under supervision of the bedside nurse.
- Apply topical coconut oil during routine cares to the entire skin (front and back). Do not apply coconut oil to the face, scalp, and sites of vascular access or other devices (e.g. chest drain).
- Use only a few gentle strokes to apply coconut oil. Do not massage. Application should only take 1-2 minutes.
- Discard any unused oil in a sachet after opening.

### Monitoring
Emollients affect thermoregulation and transepidermal water loss so monitoring of temperature, fluid and electrolyte balance essential.

### Contraindications

### Precautions
Emollients reduce adhesiveness of dressings and tape used to secure endotracheal tubes and lines.

### Drug interactions

### Adverse reactions

### Compatibility
Chlorhexidine 1% Topical Lotion (anti-staph).
### Incompatibility

- **Topical coconut oil**

### Stability

- Room temperature

### Storage

- Purified coconut extract (cocos nucifera)

### Special comments

- **Topical emollient for preventing infection in preterm infants**

A systematic review [1] included 15 trials (3492 infants) that assessed the effect of topical plant or vegetable oils. Most of these trials were undertaken in low- or middle income countries and were based in healthcare facilities. Meta-analyses suggested that topical oils may reduce invasive infection (3256 infants, 9 trials; RR 0.71, 95% CI 0.52 to 0.96; I² = 52%; low certainty evidence) but have little or no effect on mortality (316 infants, 1 trial; RR 0.94, 95% CI 0.82 to 1.08, I² = 3%; low certainty evidence).

Meta-analysis of 4 trials [2-5] found use of coconut oil compared to routine skin care reduced the rate of invasive infection (any organism) [4 trials, 2686 infants; RR 0.16 (95% CI 0.10, 0.24); RD -0.09 (-0.11, -0.07), NNT 11 (9, 14); I² 74%] and mortality [3, 393; RR 0.13 (0.02, 0.71); RD -0.05 (-0.09, -0.01); NNT 20 (11, 100); I² 49%]. A single small trial (Strunk 2018) including 72 infants reported no difference in BPD [RR 0.93 (0.53, 1.64)], NEC [RR 0.20 (0.01, 4.03)], severe ROP [RR 1.00 (0.27, 3.69)] or moderate to severe neurodevelopmental disability. A single trial (Sankaranarayanan 2005) including 63 infants reported an increase in rate of weight gain [MD 2.50 g/kg/day (1.16, 3.84) but no difference in change in crown-heel length [MD 0.70 mm/week (-3.22, 4.62)] or change in head circumference [MD 0.20 mm/week (-1.81, 2.21)].

### Practice points

- The level of certainty about the effects of emollient therapy on invasive infection or death in preterm infants is low. Since these interventions are mostly inexpensive, readily accessible, and generally acceptable, further good-quality randomised controlled trials in healthcare facilities, and in community settings in low- or middle-income countries, may be justified. [1]

  Only pharmaceutical grade products should be used.

### References

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<td>Original author/s</td>
<td>David Osborn</td>
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<tr>
<td>Evidence Review</td>
<td>David Osborn</td>
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<td>Expert review</td>
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<td>Nursing Review</td>
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<tr>
<td>Pharmacy Review</td>
<td>Simarjit Kaur</td>
</tr>
<tr>
<td>ANMF Group contributors</td>
<td></td>
</tr>
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