The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

I Evidence obtained from a systematic review of all relevant randomised control trials.

II Evidence obtained from at least one well designed randomised control trial.

III Evidence obtained from well-designed controlled trials without randomisation.

IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case- series

V Evidence obtained from systematic reviews of descriptive and qualitative studies

VI Evidence obtained from single descriptive and qualitative studies

VII Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology


<table>
<thead>
<tr>
<th>Databases searched:</th>
<th>☒ CINAHL (Ebsco)</th>
<th>☒ Medline (Ebsco)</th>
<th>☒ Pubmed (NLM)</th>
<th>☒ Nursing (Ovid)</th>
<th>☐ Emcare (Ovid)</th>
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<tbody>
<tr>
<td>Keywords used:</td>
<td>Neonatal/paediatric ostomy/ileostomy/colostomy/management/nursing/complications/skin care/stoma care</td>
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<td>Search limits:</td>
<td>Previous 15 years</td>
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<td>Other search comments:</td>
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<tr>
<td>Reference (include title, author, journal title, year of publication, volume and issue, pages)</td>
<td>Evidence level (I-VII)</td>
<td>Key findings, outcomes or recommendations</td>
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• Description of ostomy formation procedures.  
• Use of 1 and 2 piece systems and implications for skin care and use around each, with 1 piece appliances being less complicated however removal of whole appliance has implications for skin condition. |
• The importance of stomal placement that avoids skin creases is important in decreasing complications.  
• Ileostomy formation in VLBW infants is risky with high rates of complications.  
• Early closure where safe may decrease complications as ELBW infants can develop complications as time progresses. |
• Identification of stoma related complications such as wound healing and skin breakdown described highlighting importance of understanding procedure endured by patient and careful assessment. |
• Weight’s, serum and urinary Na/K data was collected from patient’s medical records who had at least 3 results during their hospital stay.  
• Link between growth and urinary sodium deficiency confirmed. |
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<thead>
<tr>
<th>Reference</th>
<th>Level</th>
<th>Summary</th>
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| Butterworth, S, Lalari, V and Dheensaw, K. (2014) Evaluation of sodium deficit in infants undergoing intestinal surgery. Journal of Pediatric Surgery. 49(5); pp 736 – 740. | IV   | • Ileostomies are more likely to result in severe malnourishment as is increased length of ICU admission.  
• Optimal growth occurs at urinary Na concentrations above 30mmol/L. |
• Sodium depletion was the common finding.  
• Data tabulated and an algorithm for sodium replacement suggested based on severity of deficit. |
| Yadav, P, Choudhury, S, Kumar Grover, J, Gupta, A, Chadha, R and Sigalet, D. (2013) Early feeding in pediatric patients following stoma closure in a resource limited environment. Journal of Pediatric Surgery. 48; pp 977 – 982. | II   | • Prospective and consecutive study of children with newly re-anastomosed stomas enrolled in an early feeding regime were compared with historical data of similar children who were not on an early feeding regime over a 12 month period.  
• The study supported the view that early reeding post-surgery is well tolerated and resulted in decreased hospital length of stay.  
• The underlying theory is based on increased gastrointestinal hormones and propulsive activity.  
• Recently concluded randomised controlled studies suggest early feeding does not lead to anastomotic dehiscence. |
• Description of specific neonatal skin characteristics that may affect stoma appliance use such as the epidermal barrier and transepidermal absorption.  
• How to protect the skin during pouch removal in premature infants by using non-alcoholic removers.  
• Discourages the use of extra adhesives to protect skin during removal.  
• How to use pastes without alcohol and apply correctly.  
• How to use barrier creams to effectively protect the skin. |
<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
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<tr>
<td>Hyland, J. (2002) The Basics of Ostomies. Gastroenterology Nursing. 25(6); pp 241 – 244.</td>
<td>• Step by step guide to correctly fitting an ostomy pouch, size the correct skin barrier, assess the stoma visually and adhere the stoma wafer to reduce complications of skin breakdown.</td>
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<td>Chandler, P. (2015) Preventing and treating peristomal skin conditions in stoma patients. British Journal of Community Nursing. 20(8); pp 386 – 388.</td>
<td>• Basic skin care. • Identification of complications and use of stoma appliances to protect skin. • Definitions of several types of stomas explained.</td>
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<td>Gause, C, Hayashi, M, Haney, C, Rhee, D, Karim, O, Weir, B, Stewart, D, Lukish, J, Lau, H, Abdullah, F, Gauda, E &amp; Pryor, H. (2016) Mucous fistula refeeding decreases parenteral nutrition exposure in postsurgical premature infants. Journal of Pediatric Surgery. (51)11; pp 1759-1765.</td>
<td>• Historically controlled study. • In the studied population of premature infants with ostomy formation around a mean gestation of 28 weeks with NEC, spontaneous perforation, volvulus and meconium inspissation, the neonates assigned to the refeeding group commenced enteral feeds and achieved full enteral feeds sooner after resection. • They were quicker to recommence feeds and ceased parenteral nutrition earlier after re-anastomosis than the non-refeeder group.</td>
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- Used for definitions of stoma types, complications and assessments of the stoma, mucocutaneous junction and peristomal skin and effluent with descriptive words and explanations.