HUDSKADOR PÅ NEONATALAVDELNING

OCH

ERFARENHET FRÅN UMEÅ

SNQ 2021-10-14 tjaktje-daelvie
Annika Nyholm, barnsjuksköterska
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Figure 2: Infant and adult skin: stratum corneum (SC) hydration and water transport properties. The SC of infant skin (a) and adult skin (b) is hydrated (small blue spheres) under normal conditions. Infant SC is more hydrated but also loses water at higher rates than adult SC

(Used with permission Telofski, L. S., et al. (2012). The Infant Skin Barrier: Can We Preserve, Protect, and Enhance the Barrier?. Dermatology Research and Practice, 2012, 1-18.)

Prematurt 500 gram 30 cm
= 4,7 ml/timme
= 113 ml/dygn

Vuxen. Man/kvinna
173 cm/76 kg
= 142 ml/timme
= 3,4 l /dygn
= x7 mer än normal perspiration

Review > Clin Dermatol. May-Jun 2015;33(3):271-80. doi: 10.1016/j.clindermatol.2014.12.003. Epub 2014 Dec 8.

Newborn infant skin: physiology, development, and care

Marty O Visscher [1], Ralf Adam [2], Susanna Brink [2], Mauricio Odio [3]
Affiliations + expand
PMID: 25889127 DOI: 10.1016/j.clindermatol.2014.12.003

Fig. 4

Transepidermal water loss (TEWL) of preterm infants. Reproduced with perm

Hudskador kan bl a relatera till

- Skjuvkraft– hudlager förskjuts i förhållande till varandra t ex hård tejpning med elastisk tejp
- Device- relaterat tryck t ex cpapmask / prong, probe
- Stripping- tejp och andra förband
- Tryck som leder till syrebrist i vävnaden t ex extravasal infusion

- Svampinfektion? Fuktig varm miljö, antibiotika

2010

Reviews

Iatrogenic skin injury in the neonatal intensive care unit

Smeeta R. Sardesai, Maria K. Kornacka, Wojciech Walas & Rangasamy Ramanathan

Pages 197-203 | Received 05 Jan 2010, Accepted 24 Feb 2010, Published online: 14 Jun 2010

Download citation https://doi.org/10.3109/14767051003728245

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Abstract

Although neonatal care has become more and more meticulous with significant changes in technology in the neonatal intensive care unit (NICU) in the past 50 years, iatrogenic cutaneous injuries continue to occur. Although the incidence of severe injuries is decreasing because the more difficult procedures are being replaced by improved techniques, skin injuries have not yet been completely eliminated. However, the nature and causes of cutaneous injuries have changed, and the injuries are frequent but generally minor. The major risk factors are low birth weight, gestational age, length of stay, a central venous line, mechanical ventilation, and support with continuous positive airway pressure. The rate of iatrogenic events is about 57% at gestational ages of 24–27 weeks, compared with 3% at term. There are no current comprehensive reviews of iatrogenic cutaneous injury. The purpose of this review is to describe the iatrogenic cutaneous injuries that may occur in the newborns as a consequence of perinatal and postnatal medical procedures. With increased survival of extremely-low-birth-weight (ELBW) infants and changing modes of management in the NICU, neonatologists must make every effort to recognize injuries and prevent their occurrence in the NICU.

Keywords: iatrogenic newborn injury scars NICU

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- Vårdtid
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- Respiratorvård
- CPAP-vård

Hudskador orsakade av sjukvården:
57% av barn i v 24-27 ; 3% av de födda i fullgången tid

Stellan Håkansson

Portugal

> J Neonatal Perinatal Med. 2020;13(2):197-206. doi: 10.3233/NPM-190269.

Nasal CPAP complications in very low birth weight preterm infants

A R Guimarães [1], G Rocha [2], M Rodrigues [2], H Guimarães [1 2 3]

Affiliations + expand

PMID: 31744025 DOI: 10.3233/NP

Conclusion: Nasal trauma is a frequent complication in VLBW preterm infants using nCPAP for long periods. Preventive measures in patients who are at greater risk of skin breakdown are of major clinical importance for a better outcome.

Italien

Columella necrosis in a child secondary to nasal continuous positive airway pressure during neonatal period.

Priyanka M, Khadijah MN, Jeyanthi K.

Med J Malaysia. 2021 Sep;76(5):771-773.

PMID: 34508394 Free article.

The advent of continuous positive airway pressure ventilation as a mode of treatment for respirator distress syndrome for premature **infants** has increased the risk of nasal **injuries** such as pressure necrosis. ...There are many factors that predispose an **infant** ...

Malaysia

Randomized Controlled Trial > J Pediatr. 2018 Oct;201:34-39.e3. doi: 10.1016/

Epub 2018 Jul 4.

A Randomized Controlled Trial of a Barrier to Reduce Nasal Injury in Preterm Infants R Binasal Noninvasive Respiratory Support

Dilini I Imbulana [1], Louise S Owen [2], Jennifer A Dawson [2], Jane L Bailey [3], Peter G Brett J Manley [4]

Affiliations + expand

PMID: 30251638 DOI: 10.1016/j.jpeds.2018.05.026

Australien
Nya Zeeland

Review > J Obstet Gynecol Neonatal Nurs. Sep-Oct 2013;42(5):508-16.
doi: 10.1111/1552-6909.12233. Epub 2013 Sep 4.

An integrative review of skin breakdown in the preterm infant associated with nasal continuous positive airway pressure

Katherine M Newnam, Jacqueline M McGrath, Tracy Estes, Nancy Jallo, Jeanne Salyer, W Thomas Bass

PMID: 24020476 DOI: 10.1111/1552-6909.12233

2013

46 artiklar
6 fallstudier
22 hud/nässkador under cpapbehandling
18 prevention hudskador under cpapbehandling

Riskfaktorer:
- Tillväxthämmning
- Gestationsålder
- Behandlingslängd: Antal cpapdagar

Prevention:
liten evidens, begränsat med studier

Konklusion:
Risk med Cpapbehandling är hudskador pga hårt sittande interface (för att upprätthålla rätt tryck i luftvägarna)

Förebygga hudskada kan leda till:
- Förbättrad noninvasiv ventilation
- minskning av reintubation,
- minskning av sepsis, smärta och obehag
- förbättra barnets möjlighet till utveckling

Adv Neonatal Care. 2016 Oct;16 Suppl 5S:S33-S41. doi: 10.1097/ANC.0000000000000337.

2016

Skin Rounds: A Quality Improvement Approach to Enhance Skin Care in the Neonatal Intensive Care Unit

Marliese Dion Nist[1], Elizabeth A Rodgers, Brenda M Ruth, C Briana Bertoni, Thomas Bartman, Leah A Keller, James W Dail, Renee Gardikes-Gingery, Edward G Shepherd

Affiliations + expand

PMID: 27676113 DOI: 10.1097/ANC.0000000000000337

Behövs standardiserade metoder för att förebygga, upptäcka och behandla hudskador

Ett dedikerat hud-team kan hjälpa till att förebygga och upptäcka hudskador

Metod:
I) Hudteam skapades för att identifiera hudskador 1g/vecka
II) Hudinspektion/bedömning 2g/dag av personal

Resultat: 2299 NICU patienter, 9025 bedömningar
Efter införandet ökade ”incidenten” av trycksår från 0,49/1000 vårddygn till 4.6/1000 vårddygn

Vanligaste skadorna: rodnad, stripping, blånader

Vanligaste orsak: medicinsk utrustning

Klinik: att fastställa den faktiska incidenten behövs för att sedan rikta riktade preventiva åtgärder

Forskning: behövs för att fastställa effektiva preventiva åtgärder och rätt behandling

Causes of incident pressure ulcers. IA indicates intra-arterial; IV, intravenous.

Skin Rounds: A Quality Improvement Approach to Enhance Skin Care in the Neonatal Intensive Care Unit.
Nist, Marliese; Dion MS, RNC-NIC; Rodgers, Elizabeth; BSN, RN; Ruth, Brenda; BSN, RN; Bertoni, C; Bartman, Thomas; MD, PhD; Keller, Leah; BSN, RN; Dail, James; MBA, CLSSBB; Gardikes-Gingery, Renee; MSN, RN; Shepherd, Edward

Advances in Neonatal Care. 16 Supplement 5S:S33-S41, October 2016.
DOI: 10.1097/ANC.0000000000000337

Figure. No caption available.

Wolters Kluwer Health | OvidSP

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2019

Health Serv Insights. 2019; 12: 1178632919845630. PMCID: PMC6572893
Published online 2019 Jun 14. doi: 10.1177/1178632919845630 PMID: 31236011

Predicting Neonatal Skin Injury: The First Step to Reducing Skin Injuries in Neonates

Margaret Broom,[1,2] Ann Marie Dunk,[2,3] and Abdel-Latif E Mohamed[1,4]

▸ Author information ▸ Article notes ▸ Copyright and License information Disclaimer

Konklusion
Barn på neonatalavdelningar löper stor risk för hudskador
SRAMT identifierade risken bättre än BQS och erfaren personal
Olika faktorer som påverkar hudskador (multifaktoriell)
Området är eftersatt och det behövs forskning

Utvärdera skattningsskala SRAMT jmf m BQS och personalen (erfarenhet 5 år) att förutspå risk för hudskada

Skin risk assessment and management tool (SRAMT)
Neonatal/Infant Braden-Q scale (BQS)

Vårdpersonals kunskap att förutspå risken till hudskada reducerar antalet hudskador om det också finns stöd av hudvårdsrutiner, guidelines och vaksamhet i den dagliga omvårdnaden

- LÖF patientskador 1/1 2011- 4/10 2021

- 389 anmälningar
- 257 ersatta/108 ej ersatta
- 24 handläggs just nu

Typ	Ersatta
Hudskador (ICD-10-kod L89.x eller L90.5 eller S01.x)	66
Läkemedel (ICD-10-kod Y40-Y59)	1
Infektion (ICD-10-kod Axx-Bxx eller T81.4 eller P36.x)	34
Blödningar (ICD-10-kod T81.0 och T81.2)	4
Kärlkomplikationer (ICD-10-kod T81.7 och T81.8)	14
MRSA/ESBL/liknande	39
Övrigt (40 olika tillstånd som förekommer 1-2 ggr)	99
Summa	257

Pelle Gustavsson, chefsöverläkare LÖF 2021-10

SNQ

KAPACITET, VÅRDPRODUKTION

BEHANDLINGSMETODER

OMVÅRDNAD

VÅRDRESULTAT

LÅNGTIDSUPPFÖLJNING

Hudskador

Trycksår och andra skador på huden förekommer i neonatalvården och utgör i värsta fall ingångsport för infektioner, orsak till smärta och bestående ärr. Under 2019 infördes daglig registrering av hudskador i Neonatalregistret. Under 2020 registrerades totalt 1546 vårddygn med hudrodnader, 546 dygn med ytliga sår och 65 vårddygn med djupa sår eller nekroser.

Figur 2. Dygn med hudskada per 100 vårddygn under 2020 (totalt 138625 vårddygn). Sjukhus som inte rapporterat några dygn med hudskada är dolda i figuren. Data är ej justerade för case-mix.

Hudgrupp

Utbildning och PM
Till vårdpersonal

Registrering i SNQreg

Metavision

Vårdutvecklare

Meny | Patient | Nutrition | GPL | Patientlista | Arbetslista | Länkar/PM | EDA | Paramed | Uthopp | Skriv anteckning | Läs journal | Rensa patient | Logga ut

iMDsoft

NEO Admin Hemflik | SNQ | Hem | Målord. | Läkemedel | Dela | Nutrition I | Nutrition II | Läkare | Access/Hud | Prover/Rtg | Respiration | Cirkulation | Infektion | Kylbeh. Neurologi | Ikterus | Loggbok | 24h-Översikt | Blodcentral PIN Point

Gå till | NEO NUS | 21-10-5 17⁰⁰ 19⁰⁰ 21⁰⁰ 23⁰⁰ 21-10-6 1⁰⁰ 3⁰⁰ 5⁰⁰ 7⁰⁰ 9⁰⁰ 11⁰⁰ 13⁰⁰ 15⁰⁰ | 15:00 | 2 timmar

Accesser

Nasal tub, 4,0	Nasalt hö / 4,0	19 d/0 t/16 m
Ventrikelsond, 6 Fr	Nasalt vä / 6 Fr	18 d/23 t/58...

Hudproblem

Hudproblem (1)	Rodnad / halsveck/nacke	15 d/6 t/6 m
Hudproblem (2)	Armhålor	4 d/23 t/57 m

Omläggningar

Sondkontroll	◇ ◇ ◇	68 d/21 t/1 m

Varningar | Registrera accesser | Antal stick | Övrig patientutrustning | Registrera hudproblem | Sår-skadeöversikt

Sondläge: 25,0 cm

Aktuellt tubdjup: 13,5 cm vid näsvingen

Nyttan med all dokumentation och registrering …?

Dokumentation **i journal för att bedriva vård**

- Observation, behandling och utvärdering av åtgärder för varje enskild patient

Registrering för kvalitetsförbättring, att lära av varandra med hjälp av neonatalregistret

- Kartläggning
- Jämförelse
- Utvärdering
- Forskning

Förutsättning för användbar registrering och jämförelse med andra/inom verksamheten:

- Lika bedömning av hudskador inom egen verksamhet
- Lika bedömning av hudskador nationellt
- Dokumentation av hudskador i journalsystemet -→SNQ

Tack!

Corpus ID: 57373053

Developing an Australian skin risk assessment and management tool for neonates

M. Broom, Wade Burton, +2 authors M. Abdel-Latif • Published 2017 • Medicine •
Wound Practice & Research: Journal of the Australian Wound Management Association

Background: Skin injuries are a common occurrence in neonatal units. Currently there are few tools that meet the specific needs of the neonatal population. To assist nurses in identifying neonates at risk and improve neonatal skin care, a working group developed a neonatal skin risk assessment and management tool (SRAMT) for their unit.

Risk score	Category	Assessment and documentation guidelines
≤ 8	Low risk	Continue daily assessment and documentation of skin integrity.
9–16	Moderate risk	Reposition neonate every 6–8 hours. Reassess and document skin integrity 6–8 hourly.
17–24	High risk	Reposition neonate and equipment devices at least every 4–6 hours. Reassess and document every 4–6 hours.
25–32	Extreme risk	Inspect skin at least 2–4 hourly, ensuring equipment/objects are not pressing on the skin. Reassess and document every 4–6 hours.

Category	Descriptor	Date/time Day of life
Current gestational age	Neonate <28 weeks	4
	Neonate >28 weeks and <33 weeks	3
	Neonate >33 weeks and <38 weeks	2
	Neonate >38 weeks	1
Sensory perception	Diminished level of consciousness/muscles relaxed/heavily sedated	4
	Oversensitive to noise, lights and touch/easily agitated/difficult to calm	3
	Easily agitated but calms with comfort measures/few self-calming behaviours	2
	Age-appropriate responses to stimuli, alert, good self-calming behaviours	1
Activity/ mobility	Does not make the slightest change in position — full assistance required	4
	Makes occasional slight changes in body or extremity position	3
	Makes frequent changes in body or extremity position, for example, turns head	2
	Makes major and frequent changes in position, moving all extremities, turns head	1
Moisture	Constantly moist due to humidity/urine/wound/stoma	4
	Skin often moist — linen needs to be changed once/8 hours	3
	Skin occasionally moist — needs linen change once/12 hours	2
	Skin usually dry, routine nappy changes and linen once/day	1
Respiratory support	Intubated and ventilated +/or CPAP >7 cm H_20	4
	CPAP > 5 cm H_20	3
	High flow and/or low flow	2
	No respiratory support	1
Skin integrity	Extensive loss of skin integrity/wound/pressure injury	4
	Localised loss of skin integrity/broken area/oedema	3
	Minor skin irritation/redness	2
	Skin integrity intact	1
Blood collection	Many attempts for IV access — cannulation/PICCS/bloods/IA Lines	4
	Venepunctures resulting in large bruise around site of insertion/oedema	3
	Heel pricks >3 in 24-hour period	2
	Blood collection weekly	1
Nutrition	TPN + lipids /IV fluids/NBM/does not tolerate feeds	4
	TPN + lipids /IV fluids/trophic feeds	3
	TPN + lipids with tube feeds increasing and tolerated	2
	Full gastric feeds	1

Semantic Scholar
Developing an Australian skin risk assessment and management tool for neonates | Semantic Scholar
Besök

2003

Neonatal/Infant Braden Q Scale

Intensity and Duration of Pressure					Score
General Physical Condition	**1. Gestational Age ≤ 28 weeks**	**2. Gestational Age > 28 weeks and ≤ 33 weeks**	**3. Gestational Age >33 weeks and ≤ 38 weeks**	**4. Gestational Age > 38 weeks**	
Mobility The ability to change and control body position	**1. Completely immobile:** Does not make even slight changes in body or extremity position due to sedation or paralytic medication	**2. Very Limited:** Makes occasional slight changes in body or extremity position.	**3. Slightly Limited:** Makes frequent changes in body or extremity position, turns head, limited extension/flexion of extremities.	**4. No Limitations:** Makes major and frequent changes in position, moving all extremities, turning head, positive reflexes (reaching, grasping, startle, etc.).	
Activity The degree of physical activity	**1. Bedfast:** Confined to bed, minimal shifting of position. Limited position choices due to condition or equipment	**2. Very Limited**: Tolerates position changes, may be lifted to reposition but is not out of bed.	**3. Slightly Limited:** Tolerates frequent position changes, can be held and/or out of bed, skin to skin care.	**4. No Limitations:** Can be repositioned or held freely, OOB to mat, chair, swing, scheduled play times.	
Sensory Perception The ability to respond in a **developmentally** appropriate way to pressure-related discomfort	**1. Completely Limited:** Unresponsive to environmental or tactile stimuli, due to diminished level of consciousness, paralytic or sedation medication.	**2. Very Limited:** Not tolerant of environmental stimuli, oversensitive to noise, lights, & touch, easily agitated, difficult to calm.	**3. Slightly Limited:** Easily agitated but calms with comfort measures. Few self-calming behaviors, occasionally successful at self-calming.	**4. No Impairment:** Age appropriate responses to aversive stimuli, alert, perceptive with successful self-calming behaviors.	
Tolerance of the Skin and Supporting Structure					
Moisture Degree to which skin is exposed to moisture	**1. Constantly Moist:** Skin is kept moist almost constantly by urine, tube, wound or ostomy drainage, etc. Dampness is detected every time patient is moved or turned.	**2. Very Moist:** Skin is often, but not always moist. Linen must be changed at least every 8 hours. Increased frequency of output (diarrhea or urine).	**3. Occasionally Moist:** Skin is occasionally moist, requiring linen change every 12 hours.	**4. Rarely Moist:** Skin is usually dry, routine diaper changes, linen only requires changing every 24 hours.	
Friction - Shear ***Friction:*** occurs when skin moves against support surfaces ***Shear***: occurs when skin and adjacent bony surface slide across one another	**1. Significant Problem**: Agitation leads to almost constant friction and vigorous rubbing of head, knees or extremities against bed surfaces.	**2. Problem:** Complete lifting without sliding against sheets is impossible, fragile skin. Frequently slides down in bed, requiring frequent repositioning.	**3. Potential Problem:** During a move skin may slide to some extent against sheets but easily repositioned. Maintains relatively good position in swing or bed most of the time but occasionally slides down.	**4. No Apparent Problem:** Able to completely lift patient during a position change. Maintains good position in bed or chair at all times.	
Nutrition ***Usual*** food intake pattern	**1. Very Poor**: NPO and/or maintained on clear liquids, or IVs **OR** never tolerates a complete feeding, losing weight.	**2. Inadequate:** Is on tube feedings or TPN/IL which provide inadequate calories and nutrients for age **OR** trophic feeds or tolerates partial feeds, some emesis, no weight gain or losing weight.	**3. Adequate:** Is on tube feedings or TPN/IL which provide adequate calories and nutrients for age **OR** tolerates P.O. feeds, stable weight or weight gain. 20gm/Kg/day.	**4. Excellent:** Is on a normal diet providing adequate calories for age. All feeds taken orally, consistent weight gain. 20gm/Kg/day < 2 kg weight or 20 gm/day ≥ 2 kg	
Tissue Perfusion and Oxygenation	**1. Extremely Compromised:** Hypotensive (MAP <50mmHg; <40 in a newborn) when position changed, generalized edema, high frequency/high ventilatory requirements.	**2. Compromised:** Normotensive but compensated; extremities cool, cardiac defects, Oxygen saturation may be <95 %; Hemoglobin maybe < 10 mg/dl; Capillary refill may be > 2 seconds; serum pH is < 7.40, unstable body temperature, oxygen.	**3. Adequate:** Normotensive by self or compensated; Oxygen saturation may be <95 %; Hemoglobin maybe < 10 mg/dl; Capillary refill may be > 2 seconds; serum pH is normal, stable body temperature, oxygen.	**4. Excellent:** Normotensive by self, Oxygen saturation >95%; Normal Hgb; Capillary refill < 2 seconds, no oxygen, stable body temperature.	
				Total: If < 20 At Risk for Skin Breakdown	

Adapted with permission from "The Neonatal Skin Risk Assessment Scale for Predicting Skin Breakdown in Neonates" © Huffines, B. & Logsdon, M. C., 1997 and "Predicting Pressure Ulcer Risk in Pediatric Patients – The Braden Q Scale" © Curley MAQ, Razmus IS, Roberts KE, & Wypij D., 2003.

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