

EPUAP guideline 2025

Britt Hansen, Plastikkirurgisk Afdeling, OUH

Sår i Syd, Temadag 6. oktober 2025

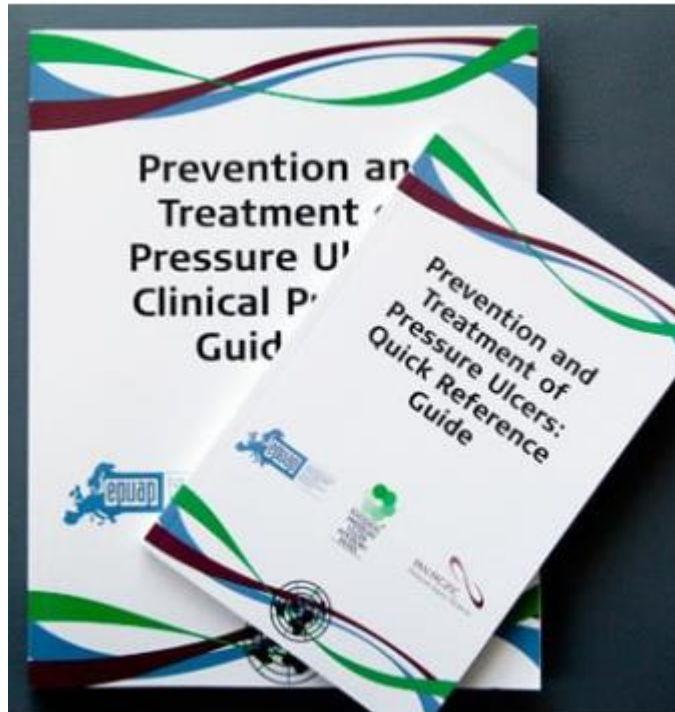
- Tryksårssygeplejerske på OUH (2019-)
 - Bedside undervisning
 - Instrukser og retningslinjer
 - Prævalensundersøgelser
 - Implementering af forskellige initiativer vedrørende tryksårsforebyggelse
 - Udekørende funktion



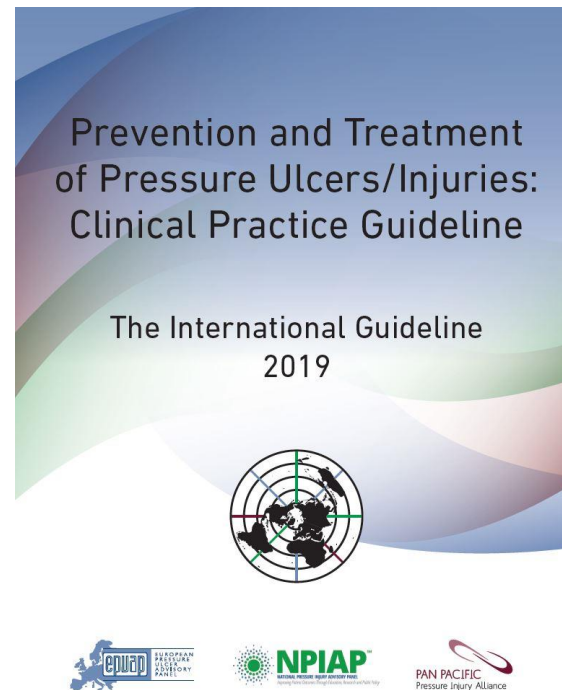
- Trustee i EPUAP 2019-2024
- Deltaget i EPUAP konferencer siden 2016



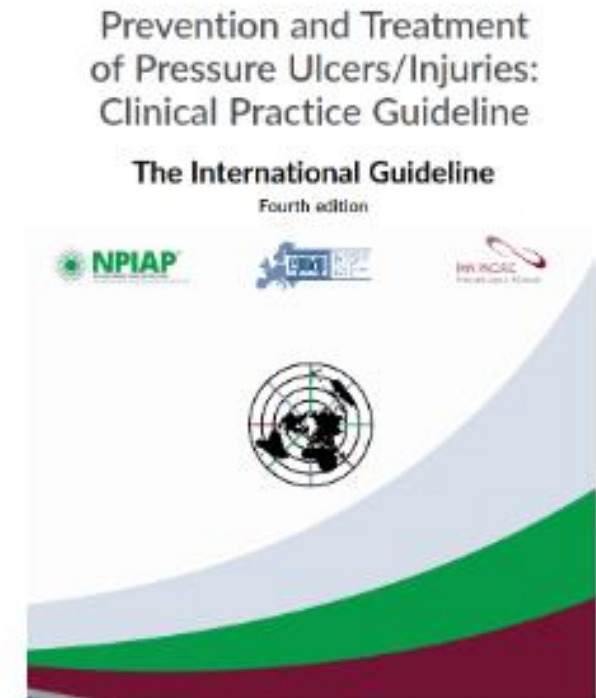
EPUAP Guidelines



2014



2019

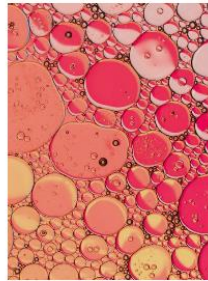


2025

Metode

- Anvendelse af GRADE metoden
 - Gold standard metode til at udarbejde guidelines
 - Formulering af kliniske spørgsmål med fokus på sammenligning af to interventioner (PICO format)
 - Brede søgestrategier i forhold til evidens
 - Vurdering af risiko for bias
 - Evidens evaluering
 - Beslutnings-ramme
 - Styrke af anbefalinger

- 10 kapitler
- Gratis at læse
- Overskueligt



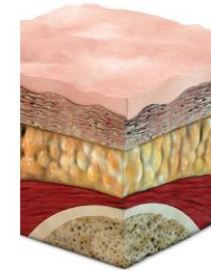
Definition and Etiology

[Pressure Ulcers/Injuries: Definition and Etiology](#)



Pressure Injury Risk

Content coming soon



Skin and Tissue Assessment

Content coming soon



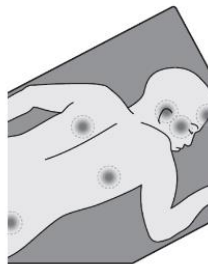
Preventive Skin Care

Content coming soon



Nutrition

[Nutrition in Pressure Injury Prevention](#)



Repositioning

[Repositioning for Pressure Injury Prevention](#)



Support Surfaces

[Full Body Support Surfaces for Pressure Injury Prevention](#)



Seating

[Seating Considerations in Pressure Injury Prevention](#)



Heel Pressure Injuries

Content coming soon



Device Related Pressure Injuries

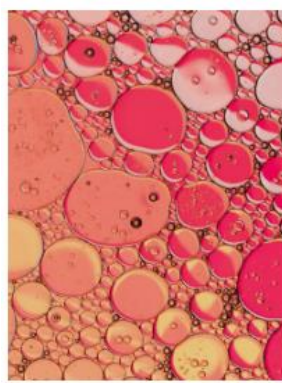
Content coming soon

National Pressure Injury Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline: Fourth Edition. Emily Haesler (ed.) 2025.

Definition og ætiologi

Definition:

Tryksår/trykskade er lokaliseret skade på huden og/eller underliggende væv, som regel over knoglefremspring eller relateret til udstyr eller medicinsk udstyr, som et resultat af vedvarende tryk eller tryk kombineret med shear.

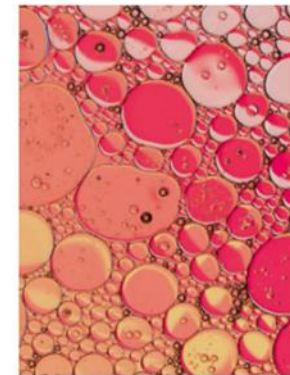


Definition and Etiology

Pressure Ulcers/Injuries:
Definition and Etiology

Tryksårets opståen

- Fortsat ikke helt klart hvordan mekanisk pres og tryk ultimativt leder til celledød
- 4 forskellige pato-fysiologiske teorier
 - Lokaliseret iskæmi
 - Direkte celle deformations skade
 - Reperfusions skade
 - Nedsat lymfatisk drænage



Definition and
Etiology
Pressure Ulcers/Injuries:
Definition and Etiology

Tryksårsrisiko

- Fortsat ikke et kapitel som er udgivet endnu
- Smerter på trykudsatte punkter?

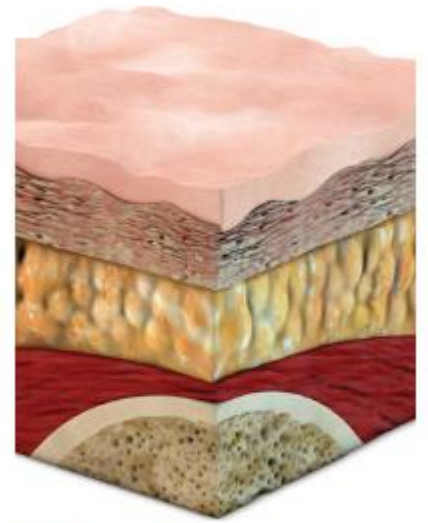


Pressure Injury Risk

Content coming soon

Hud og vævs vurdering

- Fortsat ikke et kapitel som er udgivet endnu



**Skin and Tissue
Assessment**

Content coming soon

Forbyggende hudpleje

SK1: It is good practice to evaluate the skin regularly and to implement a structured skin care regimen.

(Good practice statement)

- Skånsom rens og tørring af huden
- Hvis nødvendigt, brug af produkter til at fugte huden
- Beskyttelse af huden mod fugt
- Lindre symptomer på tør hud



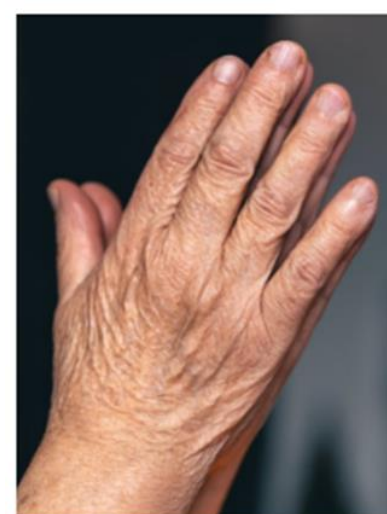
Preventive Skin Care

Preventive Skin Care

Forebyggende hudpleje (fortsat)

SK2: We suggest using a multilayered soft silicone foam dressing on sacrum and heels for individuals assessed as having a high risk of pressure injuries, where resources permit.

(Conditional recommendation, very low certainty of evidence)



Preventive Skin Care

Preventive Skin Care

- Forebyggende bandager, som er designet til at påsætte intakt hud
- Reduktion af vedvarende påvirkning af huden og vævet
 - Fortsat aflastning kombineret med forebyggende bandager
 - Daglig hudvurdering under bandagen
- Udarbejd lokale instrukser for anvendelse og brug i klinisk praksis

Forebyggende hudpleje (fortsat)

SK3: We suggest considering the use of low friction fabrics for individuals at risk of pressure injuries who are unable to reposition independently.

(Conditional recommendation, very low certainty of evidence)

Clarifiers:

- **Assess the individual's activity and mobility levels regularly and evaluate the safety of low friction fabrics as their degree or level of activity and mobility increases.**



Preventive Skin Care

Preventive Skin Care

- Tekstiler med lav friktion (fx silke lagner)
 - Evaluér risikoen for fald som kan skyldes det glatte lagen
 - Vurdér virkningen af silkelagenet, især hvis personens aktivitet øges
 - Undervis personalet i anvendelse og brug af lagener

Ernæring

N1: It is good practice to conduct nutrition screening for individuals at risk of a pressure injury.

(Good practice statement)

N2: It is good practice to conduct a comprehensive nutrition assessment for individuals at risk of a pressure injury who are screened to be at risk of malnutrition. Use the findings to develop an individualized nutrition care plan.

(Good practice statement)

N5: We suggest implementing protein supplementation for individuals at risk of pressure injuries who have been identified as malnourished or at risk of malnutrition.

(Conditional recommendation, very low certainty of evidence)



Nutrition
[Nutrition in Pressure Injury](#)
[Prevention](#)

- Ernæringsscreening til personer som er i risiko for at udvikle tryksår
- En del af manges kliniske praksis i dag

Ernæring (fortsat)

N7: We recommend against tube feeding for the specific purpose of preventing pressure injuries in individuals with or at risk of malnutrition and at pressure injury risk.

(Strong recommendation, very low certainty of evidence)

Clarifiers:

- This recommendation is not intended for individuals who are receiving tube feeding as a part of their usual clinical care, critically ill individuals, or for pediatric and neonatal populations for whom tube feeding is a requirement.



Nutrition

[Nutrition in Pressure Injury](#)

[Prevention](#)

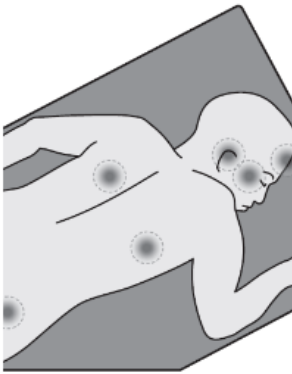
- Anbefaler ikke anvendelse af sonde-ernæring med det specifikke formål at forebygge tryksår

Repositionering (stillingsændring)

R1: It is good practice to reposition individuals at risk of pressure injuries regardless of the type of pressure redistribution full body support surface being used. The interval between repositioning might be adjusted depending on the pressure redistribution capabilities of the support surface and the individual's response. However, no support surface can entirely replace repositioning.

(Good practice statement)

- Medtage vurdering af:
 - Personens aktivitets – og mobilitetsniveau
 - Evne til at stillingsændre uden hjælp
 - Hud – og vævstolerance
 - Kliniske tilstand
 - Søvn mønstre
 - Mål for plejen
 - Underlag



Repositioning
Repositioning for Pressure
Injury Prevention

Repositionering (fortsat)

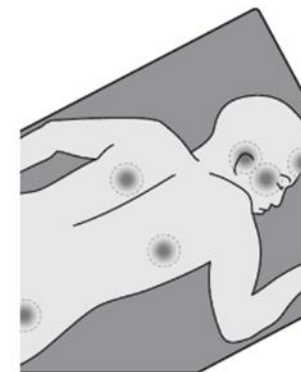
R2: It is good practice to reposition the individual in such a way that optimal offloading of pressure points and maximum redistribution of pressure are achieved.

(Good practice statement)

R3: It is good practice to use specialized equipment designed to reduce friction and shear when repositioning individuals. If manual handling is necessary, techniques that minimize friction and shear should be applied.

(Good practice statement)

- Opnå maksimum trykfordeling og aflastning af tryk-punkter
- Spørg til personens præferencer og erfaringer med repositionering. Kan risikere at skabe frygt, smerte og ubehag
- Løft personen, frem for at trække
- Minimér shear
- Brug specielle hjælpemidler som afhjælper friktion og shear



Repositioning

Repositioning for Pressure

Injury Prevention

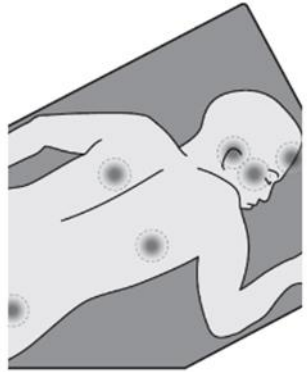
Repositioning (fortsat)

R7: We suggest that either repositioning at two hourly or three hourly intervals could be implemented for most individuals at risk of pressure injuries, if they are also on an appropriate pressure redistribution full body support surface.

(Conditional recommendation, very low certainty of evidence)

Clarifiers:

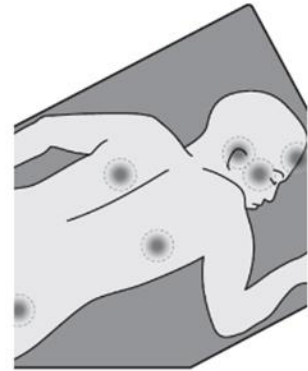
- **Individualize frequency of repositioning based on a clinical assessment, as specified in the good practice statements.**
- **Critically ill individuals or others with systemic hypoperfusion or shock states may require more frequent, incremental repositioning and supplementation of full body repositioning with assisted small shifts in body position.**
- **Individuals receiving palliative or end of life care should be given the option of repositioning frequency intervals that are best suited to their goals of care and comfort needs, and with full knowledge of pressure injury risk incurred with less frequent repositioning.**



Repositioning
Repositioning for Pressure
Injury Prevention

Repositionering (fortsat)

- Drøft risiko og fordele ved kortere intervaller med stillingsændring med personer som er i risiko for at udvikle tryksår.
- Sørg for et godt trykfordelende underlag inden man øger intervallerne mellem stillingsændring
- Dokumentér hvornår og hvordan personen er stillingsændret
- Specielle anbefalinger til
 - Palliative forløb
 - I eget hjem
 - Rygmarvsskadede



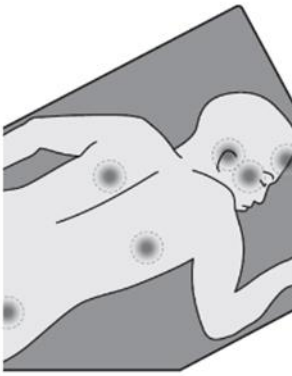
Repositioning
[Repositioning for Pressure](#)
[Injury Prevention](#)

Repositionering (fortsat)

R9: It is good practice to initiate frequent, small and incremental shifts (micromovements) in body position for critically ill individuals who are too unstable to maintain a regular repositioning regimen, and to supplement regular repositioning.

(Good practice statement)

- Brug kiler, gelpuder, positionering hjælpemidler og puder
- Mikrobevægelser erstatter ikke valget af en mere omfattende stillingsændring hvis det er nødvendigt

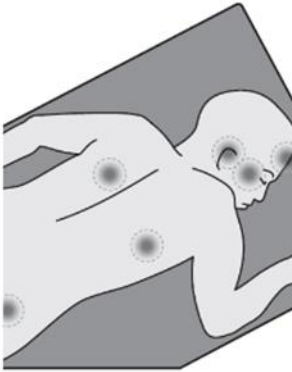


Repositioning

Repositioning for Pressure

Injury Prevention

Repositionering (fortsat)



Repositioning
[Repositioning for Pressure](#)
[Injury Prevention](#)

R10: We suggest using 30-degree lateral positioning to prevent pressure injury occurrence in individuals at risk for pressure injuries.

(Conditional recommendation, very low certainty of evidence)

Clarifiers:

- Individualize turning angles to ensure maximum offloading of both the sacrum and the trochanter. 30-degree lateral positioning may not be maintainable or adequately offload the sacrum in individuals with higher body mass index. Modifying to a 40-degree lateral position might be necessary.
- In pre-adolescent children, a 30-degree turn is equivalent to a full body turn due to their smaller body width.

- Undgå positioner som øger tryksår, fx sideleje i 90 grader
- Brug af automatisk lateral vending: Meget begrænset evidens indenfor området.

Støttende underlag

	Features [#]			Clinical considerations and preferences [#]					
	Pressure redistribution	Shear reduction*	Increased microclimate management	Requires continuous power source for a pump or motor	May impact ability to move in bed and/or egress the bed	May cause other discomfort (e.g. motion feeling)	May increase skin drying and dehydration	May increase warmth	May increase comfort
Pressure redistribution foam	✓	*							
Powered air (reactive) (excluding low air loss)	✓	*		✓	✓	✓		✓	
Non-powered air (reactive)	✓	*			✓	✓			
Alternating pressure air (active)	✓	*		✓	✓				
Low air loss (with enhanced microclimate management features)	✓	*	✓	✓	✓	✓	✓		
Medical grade sheepskin (reactive)	✓	*						✓	✓
Air-fluidized (reactive)	✓	*	✓	✓	✓	✓	✓	✓	✓
[#] Indicative only, some full body support surfaces may have additional features. We recommend always reviewing manufacturers' information and standardized test results. *Shear reduction capabilities are dependent on the design and materials of the full body support system									



Support Surfaces

Full Body Support Surfaces for
Pressure Injury Prevention

Støttende underlag (fortsat)

SS8: We suggest a medical grade sheepskin could be used for individuals at risk of pressure injuries where geographically available. If used, consider the potential impact on the full body support surface.

(Conditional recommendation, very low certainty of evidence)

Clarifiers:

- **A medical grade sheepskin is not recommended when there is a full body support surface with pressure redistribution properties available.**
- **Only medical grade sheepskins should be used. Non-medical grade sheepskins do not have the same microclimate management properties and may increase the risk of PIs.**
- **Ensure that medical grade sheepskin overlays do not interfere with the pressure redistribution properties of the full body support surface.**



Support Surfaces

Full Body Support Surfaces for
Pressure Injury Prevention

Siddende position

S1: It is good practice to consider the following factors when selecting a chair or wheelchair that meets the individual's needs for pressure redistribution and shear reduction:

- the individual's overall risk of pressure injuries,
- independence, mobility and activity needs,
- body size, shape and weight distribution,
- posture, deformity and asymmetry and its effect on pressure distribution,
- need for enhanced features (e.g. dynamic weight shifting), and
- the individual's preferences and care goals.

(Good practice statement)

- Gennemse personens kropsholdning over 24-timers periode (sover, sidder, står og går)
- Involver eksperter i sidestilling, ergoterapeuter og fysioterapeuter især ved personer som er kørestolsbrugere



Seating
[Seating Considerations in](#)
[Pressure Injury Prevention](#)

Siddende position (fortsat)

S3: We suggest that duration of sitting out of bed should be limited at much as possible for individuals at risk of pressure injuries who cannot reposition themselves while seated.

(Conditional recommendation, very low certainty of evidence)



Seating

Seating Considerations in
Pressure Injury Prevention

- Individuel vurdering
- Afhænger af personens repositionere sig selv
- Overvej om personen er i større risiko for tryksår, hvis de forbliver i sengen

Siddende position (fortsat)

S4: It is good practice to frequently reposition individuals at risk of pressure injuries who are seated out of bed. Teach and encourage independent chair/wheelchair users to reposition as often as possible by performing pressure redistribution maneuvers and weight shifts that redistribute pressure as much as possible.

(Good practice statement)

- Brug gerne tilt af ryglæn, men bækkenet skal holdes stabilt

An example of a pressure redistribution protocol for an individual sitting out of bed^{31,40}

- Perform a pressure redistribution maneuver as often as every 10 minutes, adjust frequency based on assessment of the skin and tissues
- Perform the pressure redistribution maneuver for at least 30 seconds, increasing to as long as is tolerated
- Use a combination of maneuvers, including:
 - Rear tilt
 - Right and left side lean
 - forward lean
 - push up



Seating

Seating Considerations in
Pressure Injury Prevention

Hæl tryksår

H1: It is good practice to elevate the heels of individuals at risk of pressure injuries, so the heels are not in contact with the support surface.

(Good practice statement)



Heel Pressure Injuries
[Preventing Heel Pressure Injuries](#)

- Benene hæves ved at fordele vægten af benet, langs hele længden af lægmusklen
- Sikre at der ikke påføres direkte tryk ved akillessenen
- Undgå sammenrullede tæpper, håndklæder og lign. ved bagsiden af foden
- Undgå dropfod
- Vær opmærksom på hæltryksår i siddende stilling ved fx fodstøtte i kørestol og lign.

Hæl tryksår (fortsat)

H4: We suggest that a preventive dressing could be used as an adjunct to heel elevation and regular repositioning for preventing heel pressure injuries, where resources permit.

(Conditional recommendation, low certainty of evidence)

H5: We suggest that if a preventive dressing is used for the heels, a multilayered soft silicone foam dressing should be selected.

(Conditional recommendation, very low certainty of evidence)

- Bandager skal forsat bruges sammen med elevation af hælene
- Anvende bandagen så tidlig som muligt i indlæggelsesforløbet
- Tjek huden under bandagen regelmæssigt



Heel Pressure Injuries
[Preventing Heel Pressure Injuries](#)

Udstyrs relaterede tryksår

DRPI1: It is good practice to select a medical device with consideration to its:

- design and construction material,
- correct sizing/shape for the individual, and
- ability to be correctly applied and secured.

(Good practice statement)

DRPI2: It is good practice to regularly assess for signs of early skin, tissue and mucus membrane injury by checking underneath and around medical devices and their securements.

(Good practice statement)

- Flere muligheder for forskellige størrelser



Device Related
Pressure Injuries

[Device Related Pressure
Injuries](#)

Udstyrsrelaterede tryksår (fortsat)

DRPI5: It is good practice to manage moisture at the skin-device interface.

(Good practice statement)

DRPI6: We recommend using a preventive dressing underneath medical devices when the preventive dressing will not interfere with the position or functionality of the medical device.

(Conditional recommendation, very low certainty of evidence)



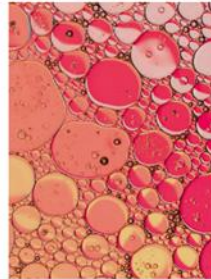
Device Related
Pressure Injuries

Device Related Pressure
Injuries

- Vurdér huden, vævet og slimhinderne i områder med høj fugtighed, fx ansigt
- Overvej at bruge hudbarriere under og omkring det medicinske udstyr ved høj fugtighed
- Forebyggende bandage:
 - Hydrokolloid
 - Polyurethan skum forbinding
 - 2 lags skum forbinding
 - Micro-foam tape

Afslutning

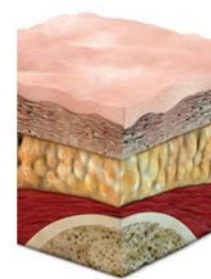
- Hurtigt overblik
- Nemt at anvende i carebundles
- Mangler dog fortsat evidens med troværdig og pålidelig data
- Kapitler med specifikke populationer er indskrevet i kapitlerne



Definition and Etiology
[Pressure Ulcers/Injuries: Definition and Etiology](#)



Pressure Injury Risk
Content coming soon



Skin and Tissue Assessment
Content coming soon



Preventive Skin Care
Content coming soon



Nutrition
[Nutrition in Pressure Injury Prevention](#)



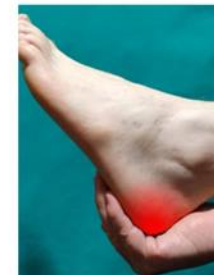
Repositioning
[Repositioning for Pressure Injury Prevention](#)



Support Surfaces
[Full Body Support Surfaces for Pressure Injury Prevention](#)



Seating
[Seating Considerations in Pressure Injury Prevention](#)



Heel Pressure Injuries
Content coming soon



Device Related Pressure Injuries
Content coming soon

