**Kliiniline küsimus nr 7 c**

Kas kõigil lamatise tekke riskiga patsientidel **geelpadja** kasutamine lamatisohtlike piirkondade all vs selle kasutamata jätmine;

Kriitilised tulemusnäitajad:

**Lamatise tekkimise kiirus (alates liikumispiirangu tekkimisest)**

**Elukvaliteet**

**Kokkuvõte**

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| Geelpatju käsitletakse kui toetusvahendit (support surface). Toetusvahendite ja madratsite efektiivsust lamatiste ennetamises käsitlevad kolm süstemaatilist ülevaadet Chou, 2013, McInnes 2013, Medical Advisory Secretariat, 2009. Uuringute tulemused kinnitavad, et standardvahtmadratsile tuleks eelistada alternatiivset madratsit või muutuva rõhuga madratsikatteid.  Süstemaatiline ülevaade hõlmas ka uuringuid, kus toetusvahendina kasutati ka geelpatju.  Puudub tõendus, et võrreldes alternatiivseid toetusvahendeid nagu madratsikatteid/madratseid omavahel, saaks ühtegi neist eelistada.  **Geelpatjade kasutamist lamatiste ennetuses on eraldi hinnatud ratastooli patsientidel.**  **Vt EvSU KA7c** |

**Süstemaatilised ülevaated**

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| 1. Chou R , Dana T, Bougatsos C, Blazina I, Starmer A, Reitel K, Buckley D. Pressure Ulcer Risk Assessment and Prevention: Comparative Effectiveness. Agency for Health Care Research and Quality Comparative Effectiveness Review No. 87. 2013 May; 2. McInnes E, Jammali-Blasi A, Bell-Syer SE, Dumville JC, Cullum N. Support surfaces for pressure ulcer prevention. Cochrane Database Syst Rev. 2011 Apr 13;(4):CD001735. doi: 10.1002/14651858.CD001735.pub4. Review. 3. Medical Advisory Secretariat. Pressure ulcer prevention: an evidence-based analysis. Ontario Health Technology Assessment Series 2009;9(2)   Lamatishaavandite riskiga patsientidel lamatiste esinemissagedust erinevate rõhku vähendavate patjade, madratsikatete, madratsite ja voodite kasutamisel võrreldes standardvahtmadratsiga. Madratseid ja madratsikatteid võrreldi 43 uuringus. Erinevate madratsite ja -katete võrdlust viidi läbi intensiivravi osakondades, ortopeedia ja traumatoloogia osakondades operatsioonilaual, pikaravi- ja hooldusosakondades, kus olid liikumispiiranguga eakad, reieluukaela- või puusaluu murruga patsiendid, ortopeedia, onkoloogia või rehabilitatsiooni patsiendid. Viie uuringu andmete koondanalüüsil, kus võrreldi standardvahtmadratsit alternatiivsete püsiva rõhuga madratsitega oli relatiivse riski erinevus 0,4 (95% CI 0,21 – 0,74), ehk lamatiste tekkerisk alternatiivsetel staatilistel madratsitel on 60% (95% CI 26%-79%) madalam võrreldes standardvahtmadratsiga.  Kahes madala kvaliteediga kliinilises uuringus võrreldi erinevaid muutuva rõhuga madratsikatte kasutamise standardvahtmadratsiga ning koondanalüüsil leiti, et muutuva rõhuga madratsikatete kasutamisel väheneb lamatishaavandite tekkerisk RR 0,31 (95% CI 0,17 kuni 0,58).  • Puudub piisav teaduslik tõendus, mis võimaldaks välja tuua eelistust alternatiivsete muutumatu rõhuga madratsite või madratsikatete osas (sh geelpadjad).  Erinevaid muutumatu rõhujaotusega madratseid või madratsikatteid on omavahel võrreldud viies erinevas randomiseeritud kontrolluuringus. Valdavalt ei ole erinevates vahendite võrdlemisel olulist erinevust lamatishaavandite esinemissageduses. Vaid kahes uuringus, kus võrreldi erinevate tootjate vahtmadratseid, leiti erinevus, kuid uuringute kvaliteet uuritavate kaasamisel ja pimendamisel oli madal. Seega ei ole piisavalt teaduslikku tõendust, mis võimaldaks eelistada erinevaid alternatiivseid staatilisi madratseid või madratsikatteid.  • Võrdlusuuringud ei ole leidnud, et muutuva rõhujaotusega ja muutumatu rõhujaotusega alternatiivsete madratsite võrdlemisel oleks erinevust.  Kümnes kliinilises uuringus on võrreldud erinevaid muutumatu rõhuga madratseid muutuva rõhuga madratsitega ning hinnati lamatishaavandite tekkimise sagedust. Ühes madala kvaliteediga uuringus leiti, et muutuva rõhuga madratsite kasutamisel esines vähem lamatishaavaneid, kui üheksa uuringu tulemused erinevust madratsite kasutamisel ei leidnud.  **Võimalikud kahjulikud toimed:**  Vaid ühes uuringus on hinnatud võimalikke kahjulikke toimeid patsiendile. Ei leitud, et oleks ebasoovitavates toimetes erinevust, kui kasutati staatilist geelpatja või mitmekambrilist pulseerivat dünaamilist madratsit. |

**Ravijuhendid**

Geelpadja kasutamist ei ole võimalik üheselt tõlgendada, sest sageli soovitused antud koos õhk, vaht- jm täidisega patjade kohta. Geelpatja ennetava tegevusena on käsitletud kolmes juhendis. Küll mainitakse, et geelpadi võib põhjustada niiskuse teket nahapinnal.

**Viited**

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| Kokkuvõtte (abstract või kokkuvõtlikum info) | Viide kirjandusallikale |
| Objectives:  While pressure ulcers commonly occur and are associated with significant health burdens, they are potentially preventable. This report systematically reviews the evidence on (1) risk-assessment scales for identifying people at higher risk of pressure ulcers and (2) preventive interventions to decrease incidence or severity of pressure ulcers. The Agency for Healthcare Research and Quality also commissioned a separate report on effectiveness of interventions to treat pressure ulcers.  Data sources:  Articles were identified from searches of MEDLINE® (1946 to July 2012), CINAHL (1988 to July 2012), the Cochrane Central Register of Controlled Trials and Database of Systematic Reviews (through July 2012), clinical trials registries, and reference lists. Review methods. We used predefined criteria to determine study eligibility. We selected randomized trials and cohort studies on the effects of use of risk-assessment tools and preventive interventions on clinical outcomes. We also selected prospective studies on the diagnostic accuracy of risk-assessment tools for predicting incidence of pressure ulcers. The quality of included studies was assessed, data were extracted, and results were summarized.  Results:  Of the 4,733 citations identified at the title and abstract level, we screened and reviewed 747 full-text articles. A total of 120 studies (in 122 publications) were included. One good- and two poor-quality studies evaluated effects of using a risk-assessment tool on clinical outcomes, with the good-quality randomized trial showing no difference between use of the Waterlow scale or the Ramstadius tool compared with clinical judgment in subsequent risk of pressure ulcers. Studies of diagnostic accuracy found that commonly used risk-assessment instruments (such as the Braden, Norton, and Waterlow scales) can help identify patients at increased risk for ulcers, but appear to be relatively weak predictors, with no clear difference among instruments in diagnostic accuracy. Fair-quality randomized trials consistently found that more advanced static support surfaces were associated with lower risk of pressure ulcers compared with standard mattresses in higher risk patients (relative risk range, 0.20 to 0.60), with no clear differences among different advanced static support surfaces. Evidence on the effectiveness and comparative effectiveness of other support surfaces, including more advanced dynamic support surfaces, was limited, with some trials showing no clear differences between dynamic and static support surfaces. One fair-quality trial found that stepped care with dynamic support surfaces was associated with substantially decreased risk of ulcers compared with stepped care beginning with static support surfaces. In lower risk populations of patients undergoing surgery, two trials found use of a foam overlay associated with an increased risk of pressure ulcers compared with a standard operating room mattress. Evidence on effectiveness of other preventive interventions (nutritional supplementation; repositioning; pads and dressings; lotions, creams, and cleansers; corticotropin injections; polarized light therapy; and intraoperative warming therapy for patients undergoing surgery) compared with standard care was sparse and insufficient to reach reliable conclusions.  Conclusions:  Although risk-assessment instruments can identify patients at higher risk for pressure ulcers, more research is needed to understand how the use of risk-assessment instruments impacts pressure ulcer incidence compared with clinical judgment. More advanced static support surfaces are more effective than standard mattresses for preventing ulcers in higher risk populations. More research is needed to understand the effectiveness of other preventive interventions over usual care and the comparative effectiveness of preventive interventions. | Chou R , Dana T, Bougatsos C, Blazina I, Starmer A, Reitel K, Buckley D. Pressure Ulcer Risk Assessment and Prevention: Comparative Effectiveness. Agency for Health Care Research and Quality Comparative Effectiveness Review No. 87. 2013 |
| Risk Assessment  There is very low quality evidence to support the hypothesis that allocating the type of pressure-relieving equipment according to the person’s level of pressure ulcer risk statistically decreases the incidence of pressure ulcer development. Similarly, there is very low quality evidence to support the hypothesis that incorporating a risk assessment into nursing practice increases the number of preventative measures used per person and that these interventions are initiated earlier in the care continuum.  Pressure Redistribution Devices  There is moderate quality evidence that the use of an alternative foam mattress produces a relative risk reduction (RRR) of 69% in the incidence of pressure ulcers compared with a standard hospital mattress. The evidence does not support the superiority of one particular type of alternative foam mattress.  There is very low quality evidence that the use of an alternating pressure mattress is associated with an RRR of 71% in the incidence of grade 1 or 2 pressure ulcers. Similarly, there is low quality evidence that the use of an alternating pressure mattress is associated with an RRR of 68% in the incidence of deteriorating skin changes.  There is moderate quality evidence that there is a statistically nonsignificant difference in the incidence of grade 2 pressure ulcers between persons using an alternating pressure mattress and those using an alternating pressure overlay.  There is moderate quality evidence that the use of an Australian sheepskin produces an RRR of 58% in the incidence of pressure ulcers grade 1 or greater. There is also evidence that sheepskins are uncomfortable to use. The Pressure Ulcer Advisory Panel noted that, in general, sheepskins are not a useful preventive intervention because they bunch up in a patient’s bed and may contribute to wound infection if not properly cleaned, and this reduces their acceptability as a preventive intervention.  There is very low quality evidence that the use of a Micropulse System alternating pressure mattress used intra operatively and postoperatively produces an RRR of 79% in the incidence of pressure ulcers compared with a gel-pad used intraoperatively and a standard hospital mattress used postoperatively (standard care). It is unclear if this effect is due to the use of the alternating pressure mattress intraoperatively or postoperatively or if indeed it must be used in both patient care areas.  There is low quality evidence that the use of a vesico-elastic polymer pad (gel pad) on the operating table for surgeries of at least 90 minutes’ duration produces a statistically significant RRR of 47% in the incidence of pressure ulcers grade 1 or greater compared with a standard operating table foam mattress.  There is low quality evidence that the use of an air suspension bed in the intensive care unit (ICU) for stays of at least 3 days produces a statistically significant RRR of 76% in the incidence of pressure ulcers compared with a standard ICU bed.  There is very low quality evidence that the use of an alternating pressure mattress does not statistically reduce the incidence of pressure ulcers compared with an alternative foam mattress.  Nutritional Supplementation  There is very low quality evidence supporting an RRR of 15% in the incidence of pressure ulcers when nutritional supplementation is added to a standard hospital diet.  Repositioning  There is low quality evidence supporting the superiority of a 4-hourly turning schedule with a vesico-elastic polyurethane foam mattress compared with a 2-hourly or 3-hourly turning schedule and a standard foam mattress to reduce the incidence of grade 1 or 2 pressure ulcers.  Incontinence Management  There is very low quality evidence supporting the benefit of a structured skin care protocol to reduce the incidence of grade 1 or 2 pressure ulcers in persons with urinary and/or fecal incontinence.  There is low quality evidence supporting the benefit of a pH-balanced cleanser compared with soap and water to reduce the incidence of grade 1 or 2 pressure ulcers in persons with urinary and fecal incontinence.  Conclusions  There is moderate quality evidence that an alternative foam mattress is effective in preventing the development of pressure ulcers compared with a standard hospital foam mattress.  However, overall there remains a paucity of moderate or higher quality evidence in the literature to support many of the preventive interventions. Until better quality evidence is available, pressure ulcer preventive care must be guided by expert opinion for those interventions where low or very low quality evidence supports the effectiveness of such interventions. | Medical Advisory Secretariat. Pressure ulcer prevention: an evidence-based analysis. Ontario Health Technology Assessment Series 2009;9(2). |
| BACKGROUND:  Pressure ulcers (i.e. bedsores, pressure sores, decubitus ulcers) are areas of localised damage to the skin and underlying tissue. They are common in the elderly and immobile, and costly in financial and human terms. Pressure-relieving support surfaces (i.e. beds, mattresses, seat cushions etc) are used to help prevent ulcer development.  OBJECTIVES:  This systematic review seeks to establish: (1) the extent to which pressure-relieving support surfaces reduce the incidence of pressure ulcers compared with standard support surfaces, and, (2) their comparative effectiveness in ulcer prevention.  SEARCH STRATEGY:  For this third update we searched: the Cochrane Wounds Group Specialised Register (searched 8 December 2010), The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2010, Issue 4); Ovid MEDLINE (1950 to November Week 3 2010); Ovid MEDLINE (In-Process & Other Non-Indexed Citations December 07, 2010); Ovid EMBASE (1980 to 2010 Week 48); EBSCO CINAHL (1982 to 3 December 2010), and the reference sections of included studies.  SELECTION CRITERIA:  Randomised controlled trials (RCTs) and quasi-randomised studies, published or unpublished, that assessed the effects of any support surface for prevention of pressure ulcers, in any patient group or setting which measured pressure ulcer incidence.Studies reporting only proxy outcomes (e.g. interface pressure) were excluded. Two review authors independently selected studies.  DATA COLLECTION AND ANALYSIS:  Data were extracted by one author and checked by another. Where appropriate, estimates from similar studies were pooled for meta-analysis.  MAIN RESULTS:  One new trial was included, bringing the total of included studies to 53.Foam alternatives to standard hospital foam mattresses reduce the incidence of pressure ulcers in people at risk (RR 0.40 95% CI 0.21 to 0.74). The relative merits of alternating- and constant low-pressure devices are unclear. One high-quality trial suggested that alternating-pressure mattresses may be more cost effective than alternating-pressure overlays in a UK context.Pressure-relieving overlays on the operating table reduce postoperative pressure ulcer incidence, although two studies indicated that foam overlays caused adverse skin changes. Meta-analysis of three trials indicated that Australian standard medical sheepskins prevent pressure ulcers (RR 0.56 95% CI 0.32 to 0.97).  AUTHORS' CONCLUSIONS:  People at high risk of developing pressure ulcers should use higher-specification foam mattresses rather than standard hospital foam mattresses. The relative merits of higher-specification constant low-pressure and alternating-pressure support surfaces for preventing pressure ulcers are unclear, but alternating-pressure mattresses may be more cost effective than alternating-pressure overlays in a UK context. Medical grade sheepskins are associated with a decrease in pressure ulcer development. Organisations might consider the use of some forms of pressure relief for high risk patients in the operating theatre. | McInnes E, Jammali-Blasi A, Bell-Syer SE, Dumville JC, Cullum N. Support surfaces for pressure ulcer prevention. Cochrane Database Syst Rev. 2011 Apr 13;(4):CD001735. doi: 10.1002/14651858.CD001735.pub4. |