Tõendusmaterjali kokkuvõte - EvSu

Kliiniline küsimus nr 15

Kas kroonilise venoosse haavandiga patsientidel kasutada ravitulemuse parandamiseks nekrektoomia (debridement) meetodina kirurgilist nekrektoomiat vs mehaanilist nekrektoomiat vs autolüütilist nekrektoomiat vs biokirurgilist nekrektoomiat?

Tulemusnäitajad: ravisoostumus, ravi tulemuslikkus, haavandi paranemine, patsiendi elukvaliteet, patsiendi rahulolu, hospitaliseerimine, elulemus, üldsuremuse vähenemine

Süstemaatilised ülevaated

Cochrane´i süstemaatilises ülevaates (2015) leiti, et tõendusmaterjali kinnitamaks aktiivse nekrektoomia olulisust venoosse haavandi paranemisel on vähe. Uuringuid on vähe, kohordid väikesed ning puuduvad metaanalüüsid.
Madhok jt (2013) leidsid süstemaatilise kirjanduse ülevaate tulemusena, et kõrgsagedusega ultraheli ravil (high frequency ultrasound therapy) ei ole leitud tõendust, et see raviviis parandaks haavandi paranemist, kuid on leitud tõendusmaterjali, et madala sagedusega ultraheliravi (low frequency ultrasound therapy) võib aidata kaasa haavandi paranemisele venoosse ja diabeetilise jalahaavandiga patsientidel. Hüdrokirurgiline nekrektoomia on kiire ja täpne meetod, kuid selle kohta leidub vähe tõendusmaterjali. Nekrektoomia kasutades monofilament polüester kiudpolsterdust (monofilament polyester fibre pad) ja plasma vahendatud bipolaarset raadiosageduse ablatsiooni (plasma-mediated bipolar radiofrequency ablation) on mõlemad uued tehnikad. Nende toime kinnitamiseks on vajalikud edasised uuringud.
Haavandi nekrektoomiaks on hetkel kasutusel mitmeid tehnikaid, nt autolüütiline, ensümaatiline, bionekrektoomia, mehaaniline, konservatiivne terav ja kirurgiline. Autolüütiline nekrektoomia, mis on keha loomulik reageering nekrootilisele koele, on valutu ja selektiivne, kuid see protsess on aeglane ja toime saavutamine pikaajaline. Ensümaatiline nekrektoomia, nagu kollageenil baseeruvate haavasidemete kasutamine, on soovitatud alternatiivse meetodina ja on kasulik kroonilise haavandi esmases ravis, kuid teised meetodid ei ole võimalikud. Viimasel kümnendil on kasutatud väga populaarsena bionekrektoomiat tõukudega. See on tugevalt selektiivne ja kiire meetod, kuid vajab sageli kombineerimist teiste nekrektoomia meetoditega. Mehaaniline (kuiv või märg) nekrektoomia kahjustab tervet granulatsioonikude ning võib olla ajamahukas ja valulik. Konservatiivne terav ja kirurgiline nekrektoomia on hetkel nö kuldseks standardiks, millega võrreldakse teisi nekrektoomia meetodeid. Need on kiired ja efektiivsed tehnikad, kuid teostamiseks on vajalik erialane koolitus ning võivad olla kulukad, eriti kirurgiline nekrektoomia operatsioonisaali tingimustes (vajab ka patsiendi hospitaliseerimist). Nekrektoomia meetodi valik konkreetse haav(ndi) puhul sõltub erinevatest teguritest nagu nt haava(ndi) tüüp, suurus, asukoht, eksudaadi hulk ja iseloom, talutavus patsiendile, kulutõhusus ning vastava septsialisti ja seadmete/vahendite olemasolu. Sageli on täieliku puhastumise saavutamiseks vajalik enam kui ühe nekrektoomia meetodi kasutamine. Paljude haavandite puhul on nekrektoomia korduv protsess, kui tekib korduvalt koorik ja biofilm haavapõhjal. (Madhok jt 2013).

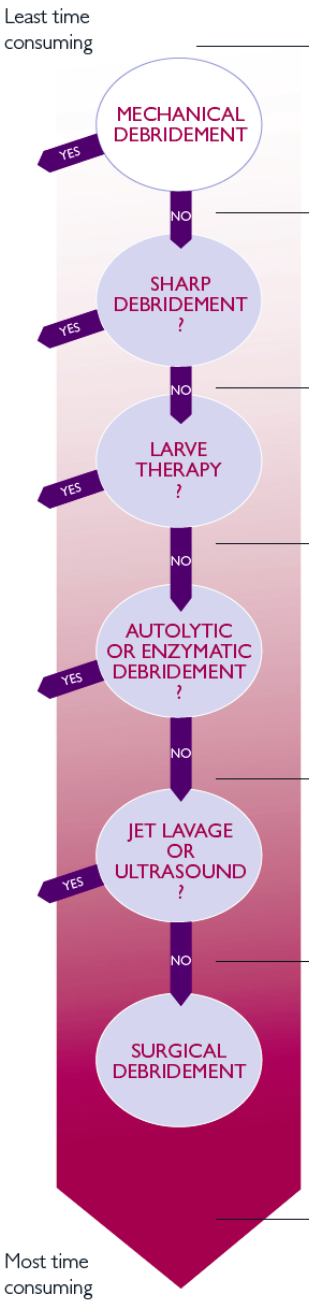
CADTH raportis uuriti mittekirurgilise nekrektoomia kliinilist tõendust krooniliste alajäseme haavandite ravis. Tuginedes viiele süstemaatilisele ülevaatele, kolmele RCT-le ja üheksale ravijuhendile leiti, et uuringutes on kasutatud erinevaid nekrektoomia tehnikaid: nekrektoomiat tõukudega, ensümaatilist ravi, hüdrogeele ja muid uuemaid meetodeid. Nekrektoomia tõukudega oli uuringute põhjal lihtne ja efektiivne nekrektoomia meetod, mis toimis kiiresti ravi esimesel nädalal ning vähendas nekrektoomia kestust. Samas ei

leitud, et see meetod suurendas oluliselt haavandi paranemist ning oli ka seotud valuga ühes uuringus.
Järgnevad nekrektoomia meetodid olid uuringute põhjal samuti efektiivsed: hüdrogeelid (suurendasid haavandi paranemist ühes RCT põhjal), ensümaatiline ravi (soolalahusega immutatud marlipadi), Woundcare 18+ (suurendas paranemist ja kooriku tekke vähenemist, oli seotud väiksema haavandi infektsiooni esinemissagedusega ühes mitterandomiseeritud uuringus). Kaasatud ravijuhendites olid soovitused kasutamaks nekrektoomiat tõukudega, hüdrogeeliga, hüdrokolloidsidemetega, mehaanilist/teravat meetodit. Viimast peeti parimaks meetodiks koe või kooriku eemaldamisel mitteisheemilistel haavanditel, ning saavutatakse kiirem progressioon kasutades nekrektoomial EMLA anesteetikumi.

EWMA nekrektoomia dokumendi (Strohal et al 2013) eesmärgiks oli esitada nekrektoomia ja selle meetodite kohta tõendusmaterjal koos soovitustega kliinilises praktikas kasutamiseks (algoritmid), defineerimaks miks, millal ja kuidas nekrektoomiat teostada. Soovitused on toodud toetudes kirjanduse ülevaatele ja lisaks ekspertide kogemusele.
Mehaaniline nekrektoomia. Kuiva või märja tavalise marli ja parafiinsideme kasutamine nekrektoomiaks ei ole üldiselt soovitatud. Monofilament kiudpadi soodustab mehaanilist nekrektoomiat, on kiire, ohutu ja kergelt kasutatav meetod, vähem valulik patsiendile. Vajab siiski edasisi uuringuid.
Autolüütilised haavasidemed. Neid on piisavalt uuritud, kergelt kasutatavad, põhjustavad vähe või üldse valu. Ei kahjusta terveid kudesid ja aitavad kaasa granulatsioonikoe tekkimisele ning epitelisatsioonile. Enamik nendest ei vaja sagedast haavasideme vahetust. Vastunäidustuseks võimalik kontaktsensibilisatsioon, hüdrogeelsidemeid ei saa kasutada veritsevatel haavadel, rohke eksudaadiga haavadel, fistlite korral, infektsiooniga haavadel, cadexomer iodine on vastunäidustatud joodiallergiaga patsientidel. Kõrvaltoimena võivad hüdrogeelid rohke eksudaadiga haava korral põhjustada haava ümbritseva naha matseratsiooni.
Ensümaatilised haavasidemed. Kergesti kasutatavad ja väga selektiivse toimega. Kuid vajavad toimimiseks niisket keskkonda, võivad ärritada haavandit ümbritsevat nahka, väljendudes nii ebamugavustundena kui põletikuna.
A***bsorbeerivad haavasidemed.*** Kergelt kasutatavad, võib kasutada ka rohke eksudaadiga haavadel. On leitud kõrvaltoimena haavapõhja kuivamist, kuid peamiseks kõrvaltoimeks on valulikkus haavasideme eemaldamisel.
Mesi. On leitud antibakteriaalseid omadusi, mitte kasutada kuival, nekrotiseeruval haaval (põhjustab edasist kuivamist), võib tekitada allergiat. Oht on, et kasutatakse korralikku ja kontrollitud toodet. Tavaline mesi võib sisaldada pestitsiide, antibiootikume, spoore.
Nekrektoomia tõukudega. See meetod on kulutõhus, võib vähendada valu, bakteriaalset koormust ja lõhna, soodustades haava paranemist ilma kõrvaltoimeteta. Suurim eelis on, et tõugud eristavad nekrootilist kude elavast koest, võimaldades lihtsat kirurgilist nekrektoomiat. Ravi on võimalik kasutada erinevas ravikeskkonnas ja tõugud jäetakse haavale 48-72 tunniks. Kõige sagedamini on kõrvaltoimena raporteeritud valu. See meetod on vastunäidustatud, kui patsiendil on teadolevalt vere hüübimise häired. Patsiendi soostumus ja nõusolek selle ravimeetodi valikul on väga olulised.
Hüdrokirurgia, ultraheli, negatiivne rõhk. Võimalused uute tehnoloogiate kasutamiseks nekrektoomia teostamisel on juba kättesaadavad erinevate haavade ravis. Arsti ülesanne on valida parim võimalik tehnika, arvestades nende näidustusi ja tehnilisi omadusi kuid ka kulutõhusust. Piirangud uute tehnikate kasutamisel on seotud nende uudsusega ja seetõttu puudub piisavalt kindel tõendus.
Kirurgiline ja terav nekrektoomia. Terav nekrektoomia on tehnika, mida saab teostada iga kliiniline spetsialist, k.a õed, perearstid, dermatoloogid jt. ilma kirurgilise väljaõppeta

spetsialistid. Kirurgiline nekrektoomia on rohkem invasiivne tegevus, tavaliselt teostavad seda kirurgid vastavates protseduuriruumides või operatsioonitoas. Kuna tegemist invasiivse tehnikaga, on vajalik väljaõpe, kvalifikatsioon, kogemus ja seadmed.
Peamine kasu nende tehnikate kasutamisest tuleneb surnud koe eemaldamise kiirusest. Need meetodid võimaldava kiire ja efektiivse koe eemaldamine, soodustades haava paranemise protsessi algust. Lisaks on kasu terava nekrektoomia kasutamisel raviviisi kulutõhususes võrreldes nt kirurgilise nekrektoomiaga. Kirurgilise nekretoomiaga on võimalik eemaldada surnud kude, kui alternatiivsed meetodid on osutunud mitteefektiivseks. Samuti on see meetod kiire ja vajalik juhul, kui elutu koe esinemine muutub patsiendile eluohtlikuks. Lisaks on dokumenteeritud ka kasu kirurgilisest nekrektoomiast haava paranemise osakaalu suurenemisele, haava paremale seisukorrale, valu vähenemisele.
Kirurgiline ja terav nekrektoomia on oma olemuselt mitteselektiivsed meetodid ning esineb liigne eksisiooni risk. Samuti võib see viia aeglustunud paranemisele (kui nekrektoomia on teostatud brutaalselt, mitte õrnalt) või põhjustada sügavamate struktuuride kahjustusi. Siiski sellist olukorda tekib terava nekrektoomia korral väga harva, kuna selle meetodi kasutamise eesmärk on eemaldada väike kogus nähtavat elutut kude.
Teravale või kirurgilise nekrektoomiale tuleks mõelda alternatiivseid meetodeid, juhul kui elujõuetu koe piir ei ulatu sügavamale kui sügava naha kihti (deep-dermal layer) või, kui haavandipõhi on kaetud fibriini või koorikuga. Nendes olukordades on tavaliselt vajalik õrnema nekrektoomia meetodi valik, et vältida liigset haavapõhja kahjustust protseduuri ajal.
Lisatud joonis dokumendist.

Fig 8. Choice of techniques: Benefits and disadvantages related to various techniques



	BENEFITS	DISADVANTAGES
MECHANICAL DEBRIDEMENT	Very fast method No special expertise needed (easy to use) Modern mechanical debridement products are claimed to cause little to no pain No damage to healthy tissue (selective debridement).	Traditional wet-to-dry debridement may result in increased risk of infection and risk of damage to healthy tissue and pain Not efficient in cases of thick, tenacious slough and hard necrosis (demand prior softening).
SHARP DEBRIDEMENT ?	Fast method Cost and resources: few resources needed with regard to staff and materials Efficient in wounds with a solid layer of necrotic tissue Suitable for exudative wounds and, in some cases, infected wounds.	Risk of infection, if sterile conditions are not ensured.
LARVE THERAPY ?	Reduce pain, bacteria and malodour Cost and resources: few resources needed Separate necrotic tissue from living tissue.	May be painful Contraindicated for some parts of the body, for patients with decreased perfusion, wounds with exposed blood vessels connecting to deep vital organs, and in cancer wounds.
AUTOLYTIC OR ENZYMATIC DEBRIDEMENT ?	Easy to use Cost and resources: may be cost saving due to fewer dressing changes (decrease in staff hours) Little or no pain No damage to healthy tissue (selective debridement) Autolytic: may provide exudation management (if dressing has absorptive properties).	Risk of allergic reactions to ingredients of the dressings and risk of inflammation Some dressings are not suitable for highly exudative wounds (enzymatic, hydrogels, occlusive dressings) *Enzymatic*: Need a moist environment to work effectively; may lead to excessive production of exudate (not suitable for highly exudative wounds) *Autolytic*: The debridement process is time consuming; contraindicated for infected wounds.
JET LAVAGE OR ULTRASOUND ?	*Jet lavage*: Flexible modes of action (in various types of products) suitable for different wound conditions *Ultrasound*: Can interfere with many different structures and has a range of effects, varying from destruction to dislocation and physical modification.	Equipment is not generally available in the various types of treatment settings Cost effectiveness: cost of equipment is high For hydrosurgery especially, skilled staff, treatment room and anaesthesia are additional costs May be painful (if no pain control).
SURGICAL DEBRIDEMENT	Efficient in wounds with a solid layer of necrotic tissue Suitable for exudative wounds and, in some cases, infected wounds.	Cost and resources: need for skilled staff, anaesthesia, treatment room/operation room etc May be very time consuming to provide resources needed Risk of removing healthy tissue Risk of infection, if sterile conditions are not secured Not suitable for patients with decreased perfusion Special precautions must be taken into account when treating functionally and cosmetically important areas.

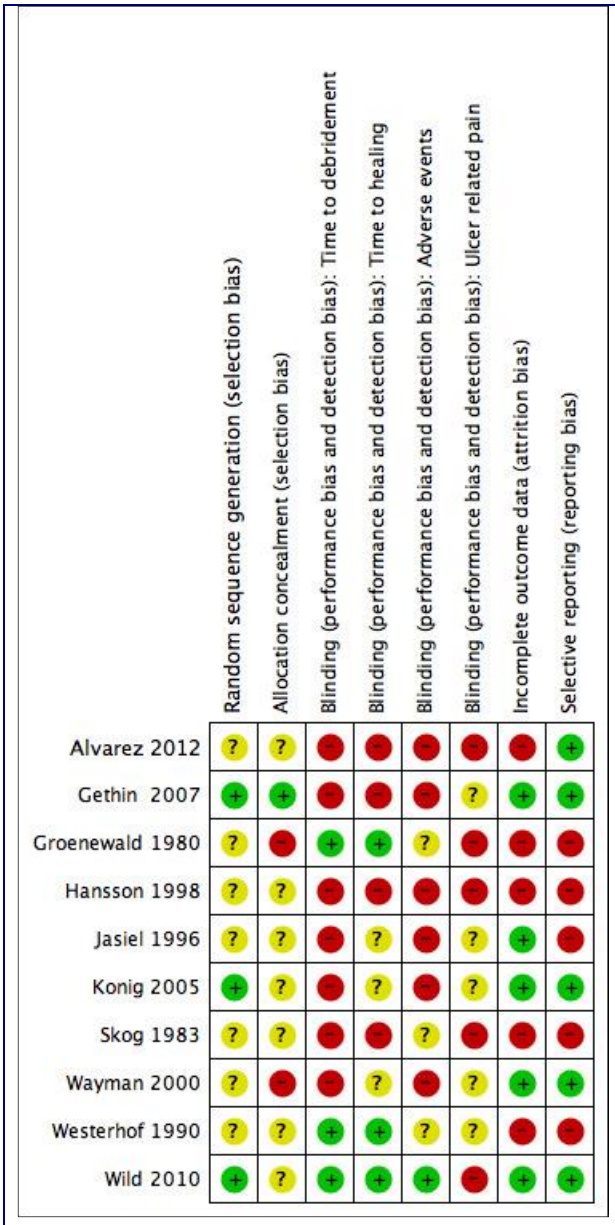
Viited

Kokkuvõtte (abstract või kokkuvõtlikum info)	Viide kirjandusallikale
The methodology of this document comprises of a general literature review with the addition of the authors' clinical expertise. The objective is to provide an updated overview with regard to debridement and its methods together with a suggestion for an overall clinical algorithm which defi nes the why, when and how of debridement. Thus, this paper is not purely evidence based or evaluating existing products, as this would lead to a compromise with the primary objective: To describe the substantial amount of available debridement technologies, which all have potential advantages and limitations related to the various wound types and treatment settings. The literature search strategy was instigated to allow for the identifi cation of a broad range of methods and results of using different techniques in the debridement of wounds. Three databases were searched: Medline, Embase and the Cochrane Database. The search was conducted in December 2011 and search terms used are listed in Appendix 1. The authors responsible for the various sections of the document selected the relevant literature to include in their sections, based primarily on the literature identifi ed in the database search. Literature used includes debridement studies of various types: Reviews, randomised controlled studies (RCTs), comparative studies and cohort studies were given priority, but in many cases non-comparative studies, case studies, in vitro studies and animal studies have been included, as RCTs and comparative studies were not available, with regards to the techniques/topics described in the document.	Strohal, R., Apelqvist, J., Dissemond, J. et al. EWMA Document: Debridement. J Wound Care. 2013; 22 (Suppl. 1): S1–S52.
Debridement is a crucial component of wound management. Traditionally, several types of wound debridement techniques have been used in clinical practice such as autolytic, enzymatic, biodebridement, mechanical, conservative sharp and surgical. Various factors determine the method of choice for debridement for a particular wound such as suitability to the patient, the type of wound, its anatomical location and the extent of debridement required. Recently developed products are beginning to challenge traditional techniques that are currently used in wound bed preparation. The purpose of this review was to critically evaluate the current evidence behind the use of these newer techniques in clinical practice. There is some evidence	Madhok BM, Vowden K, Vowden P. New techniques for wound debridement. Int Wound J 2013; 10:247–251

to suggest that low frequency ultrasound therapy may improve healing rates in patients with venous ulcers and diabetic foot ulcers. Hydrosurgery debridement is quick and precise, but the current evidence is limited and further studies are underway. Debridement using a monofilament polyester fibre pad and plasma-mediated bipolar radiofrequency ablation are both very new techniques. The initial evidence is limited, and further studies are warranted to confirm their role in management of chronic wounds.	
Objectives To determine the effects of different debriding methods or debridement versus no debridement, on the rate of debridement and wound healing in venous leg ulcers. **Search methods** In February 2015 we searched: The Cochrane Wounds Group Specialised Register; The Cochrane Central Register of Controlled Trials (CENTRAL); Ovid MEDLINE; Ovid MEDLINE (In-Process & Other Non-Indexed Citations); Ovid EMBASE and EBSCO CINAHL. There were no restrictions with respect to language, date of publication or study setting. In addition we handsearched conference proceedings, journals not cited in MEDLINE, and the bibliographies of all retrieved publications to identify potential studies. We made contact with the pharmaceutical industry to enquire about any completed studies. **Selection criteria** We included RCTs, either published or unpublished, which compared two methods of debridement or compared debridement with no debridement. We presented study results in a narrative form, as meta-analysis was not possible. **Data collection and analysis** Independently, two review authors completed all study selection, data extraction and assessment of trial quality; resolution of disagreements was completed by a third review author. **Main results** We identified 10 RCTs involving 715 participants. Eight RCTs evaluated autolytic debridement and included the following agents or dressings: biocellulose wound dressing (BWD), non-adherent dressing, honey gel, hydrogel (gel formula), hydrofibre dressing, hydrocolloid dressings, dextranomer beads, Edinburgh University Solution of Lime (EUSOL) and paraffin	Gethin G, Cowman S, Kolbach DN. Debridement for venous leg ulcers. Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD008599. DOI: 10.1002/14651858.CD008599.pub2.

gauze. Two RCTs evaluated enzymatic preparations and one evaluated biosurgical debridement. No RCTs evaluated surgical, sharp or mechanical methods of debridement, or debridement versus no debridement. Most trials were at a high risk of bias. Three RCTs assessed the number of wounds completely debrided. All three of these trials compared two different methods of autolytic debridement (234 participants), with two studies reporting statistically significant results: one study (100 participants) reported that 40/50 (80%) ulcers treated with dextranomer beads and 7/50 (14%) treated with EUSOL achieved complete debridement (RR 5.71, 95% CI 2.84 to 11.52); while the other trial (86 participants) reported the number of ulcers completely debrided as 31/46 (76%) for hydrogel versus 18/40 (45%) for paraffin gauze (RR 0.67, 95% CI 0.45 to 0.99). One study (48 participants) reported that by 12 weeks, 15/18 (84%) ulcers treated with BWD had achieved a 75% to 100% clean, granulating wound bed versus 4/15 (26%) treated with non-adherent petrolatum emulsion-impregnated gauze. Four trials assessed the mean time to achieve debridement: one (86 participants) compared two autolytic debridement methods, two compared autolytic methods with enzymatic debridement (71 participants), and the last (12 participants) compared autolytic with biosurgical debridement; none of the results achieved statistical significance. Two trials that assessed autolytic debridement methods reported the number of wounds healed at 12 weeks. One trial (108 participants) reported that 24/54 (44%) ulcers treated with honey healed versus 18/54 (33%) treated with hydrogel (RR (adjusted for baseline wound diameter) 1.38, 95%CI 1.02 to 1.88; P value 0.037). The second trial (48 participants) reported that 7/25 (28%) ulcers treated with BWD healed versus 7/23 (30%) treated with non-adherent dressing. Reduction in wound size was assessed in five trials (444 participants) in which two autolytic methods were compared. Results were statistically significant in one three-armed trial (153 participants) when cadexomer iodine was compared to	

paraffin gauze (mean difference 24.9 cm², 95% CI 7.27 to 42.53, P value 0.006) and hydrocolloid compared to paraffin gauze (mean difference 23.8 cm², 95% CI 5.48 to 42.12, P value 0.01). A second trial that assessed reduction in wound size based its results on median differences and, at four weeks, produced a statistically significantly result that favoured honey over hydrogel (P value < 0.001). The other three trials reported no statistically significant results for reduction in wound size, although one trial reported that the mean percentage reduction in wound area was greater at six and 12 weeks for BWD versus a non-adherent dressing (44% versus 24% week 6; 74% versus 54% week 12). Pain was assessed in six trials (544 participants) that compared two autolytic debridement methods, but the results were not statistically significant. No serious adverse events were reported in any trial. **Authors' conclusions** There is limited evidence to suggest that actively debriding a venous leg ulcer has a clinically significant impact on healing. The overall small number of participants, low number of studies and lack of meta-analysis in this review precludes any strong conclusions of benefit. Comparisons of different autolytic agents (hydrogel versus paraffin gauze; Dextranomer beads versus EUSOL and BWD versus nonadherent dressings) and Larvae versus hydrogel all showed statistically significant results for numbers of wounds debrided. Larger trials with follow up to healing are required.	



OVERALL SUMMARY OF FINDINGS

Of the systematic reviews, randomized controlled trials, and non-randomized studies that discussed debridement techniques, maggot debridement therapy (MDT), enzymatic therapy, hydrogels, and other newer methods were examined. The majority of studies examining MDT observed it to be a simple and effective debridement technique to treat chronic lower extremity wounds with the ability to work quickly in the first week of treatment, reduce wound areas, and reduce debridement time. MDT was not observed to significantly increase the rate of healing in one RCT and was associated with pain throughout treatment cycles in one NRS.

The following methods were also observed to be effective in treating lower extremity chronic wounds:

Non-Surgical Debridement for Chronic Lower Extremity Wounds: Clinical Effectiveness and Guidelines. Rapid Response Report. Canadian Agency for Drugs and Technologies in Health, 2013.

hydrogels (increased healing rates in one RCT), enzymatic therapy (equivalent to saline moistened gauze in one RCT), Debrisoft (efficacious simple procedure in one NRS), and Woundcare 18+ (increased healing incidence and desloughing and associated with lower incidence of wound infection when compared to hydrogel in one NRS). The nine evidence-based guidelines identified produced the following recommendations on debridement techniques: Hydrocolloidal dressings - reduced pain associated with its use - improves healing when compared to gauze Hydrogels - may use topical hydrogel dressings in non-ischemic, non-healing dry wounds with non-viable tissue MDT - bagged or loose MDT debrides faster, with similar healing properties of hydrogel, but can be more painful - medical grade maggots are required - qualified personnel are required - can also be used when conventional treatment is not working - can be used in wounds where surgical debridement cannot be performed Mechanical/Sharp - best at removing tissue or eschar in non-ischemic wounds - removes non-vital tissue and slough - less painful - faster progression with the use of eutectic mixture of local anesthetics (EMLA) cream.	

Ravijuhendid

SVS (2014) ravijuhend soovitab elutu koe debrideerimiseks kirurgilist debridementi (Grade 1, Level B). Alternatiiviks kirurgilisele debridemendile soovitab juhend hüdrokirurgilist debridementi (Grade 2, Level B). UH debridement halvem kui kirurgiline debridement (Grade 2, Level C). Ensümaatilist debridementi soovitatakse juhtudel, kui puudub spetsialist või ligipääs kirurgilisele debridemendile (Grade 2, Level C). Bioloogilist debridementi soovitatakse alternatiivina kirurgilisele (Grade 2, Level B). Kirurgiline debridement parim. ***Guideline 4.2: Débridement*** We recommend that venous leg ulcers receive thorough débridement at their initial evaluation to remove obvious necrotic tissue, excessive bacterial burden, and cellular burden of dead and senescent cells. [GRADE - 1; LEVEL OF EVIDENCE - B] We suggest that additional maintenance débridement be performed to maintain the appearance and readiness of the wound bed for healing. [GRADE - 2; LEVEL OF EVIDENCE - B] We

suggest that the healt care provider choose from a number of débridement methods, including sharp, enzymatic, mechanical, biologic, and
autolytic. More than one débridement method may be appropriate. [GRADE - 2; LEVEL OF EVIDENCE - B]

Guideline 4.3: Anesthesia for Surgical Débridement

We recommend that local anesthesia (topical or local injection) be administered to minimize discomfort associated with surgical venous leg ulcer débridement. In selected cases, regional block or general anesthesia may be required. [GRADE - 1; LEVEL OF EVIDENCE - B]

Guideline 4.4: Surgical Débridement

We recommend that surgical débridement be performed for venous leg ulcers with slough, nonviable tissue, or eschar. Serial wound assessment is important in determining the need for repeated débridement. [GRADE - 1;LEVEL OF EVIDENCE - B]

Guideline 4.5 Hydrosurgical Débridement

We suggest hydrosurgical débridement as an alternative to standard surgical débridement of venous leg ulcers. [GRADE - 2; LEVEL OF EVIDENCE - B]

Guideline 4.6: Ultrasonic Débridement

We suggest against ultrasonic débridement over surgical débridement in the treatment of venous leg ulcers. [GRADE - 2; LEVEL OF EVIDENCE - C]

Guideline 4.7: Enzymatic Débridement

We suggest enzymatic débridement of venous leg ulcers when no clinician trained in surgical débridement is available to débride the wound. [GRADE - 2; LEVEL OF EVIDENCE - C] We do not suggest enzymatic débridement over surgical débridement. [GRADE - 2; LEVEL OF EVIDENCE - C]

Guideline 4.8: Biologic Débridement

We suggest that larval therapy for venous leg ulcers can be used as an alternative to surgical débridement. [GRADE - 2; LEVEL OF EVIDENCE - B]

AWMA (2011) ravijuhend leiab, et ensümaatiline debridement ei oma efekti VLU paranemisele (Grade C). Soovitab alternatiivseid meetodeid debrideerimiseks (CBR).
Recommendations
Enzymatic debriding agents have no effect in promoting healing in VLUs. (Grade C)
Consider other debridement methods to prepare the ulcer bed for healing. (CBR)
Caution Adverse events do not commonly occur with enzymatic debriding agents. Collagenase debriding agents are contraindicated in patients with hypersensitivity due to the risk of allergic reaction.

Practice points
• Mechanical debridement methods, such as ultrasound, high-pressure irrigation or wet to dry dressings, may be useful for reducing non-viable tissue, bacterial burden and inflammation.
• When debriding a VLU, the goal is to remove all excess non-viable tissue; however, for patient komfort smaller amounts of non-viable tissue may be removed in each session.
• Conservative sharp wound debridement should only be performed by health professionals with appropriate training.

SIGN 2010

Sharp debridement should only be carried out by appropriately trained practitioners. (D)

Sharp debridement is a relatively swift method of debridement, but must be undertaken by someone with specific training in this skill, as it is essential that underlying structures are

not damaged
Local anaesthetic cream (EMLA®) should be used to reduce the pain of sharp debridement in patients with venous leg ulcer.(C)
Given the uncertain relationship between debridement and healing no recommendation for Manuka honey, as a debridement agent, can be made.
Given the uncertain relationship between debridement and healing no recommendation for larval therapy can be made.

(chronic[All Fields] AND ("varicose ulcer"[MeSH Terms] OR ("varicose"[All Fields] AND "ulcer"[All Fields]) OR "varicose ulcer"[All Fields] OR ("venous"[All Fields] AND "leg"[All Fields] AND "ulcer"[All Fields]) OR "venous leg ulcer"[All Fields])) AND ("debridement"[MeSH Terms] OR "debridement"[All Fields]) AND ((Meta-Analysis[ptyp] OR Randomized Controlled Trial[ptyp] OR systematic[sb]) AND ("2005/01/01"[PDAT] : "2015/12/31"[PDAT]))
Leitud 28 allikat.