Complete list of relevant published studies on Parafricta® Low-Friction SkinTech™ products

Primary study reference	Title	Population	Intervention	Comparator
Study 1: Sylvie Hampton, Nursing & Residential Care December 2007, Vol. 9, No 12, pp 2-4.	**"Reducing shearing forces: Parafricta fabric"**	Nursing Home patient (Grade 2 buttocks pressure ulceration, standard intervention of turning and on a pressure reducing/redistributing surface)	Parafricta Undergarment added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface	• Added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface. • Photograph of starting skin condition.
Study 2: Cathie Bree-Aslan and Sylvie Hampton, Nursing & Residential Care January 2008, Vol. 10, No 01	**"Parafricta and the prevention of shearing forces: heel ulcers"**	Nursing Home patients (Grade 4 heel pressure ulceration, standard intervention of turning and on a pressure reducing/redistributing surface.)	Parafricta Bootee added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface.	• Added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface. • Photograph of starting skin condition.
Study 3: A Kerr, Nursing & Residential Care, January 2008, Vol. 10, No 01, pp. 626-628.	**"Reducing shear and friction: Parafricta undergarments"**	Nursing Home patient (Grade 2 buttocks pressure ulceration and skin maceration, standard intervention of turning and on a pressure reducing/redistributing surface)	Parafricta Undergarment added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface.	• Added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface. • Photograph of starting skin condition.
Study 4: Sylvie Hampton, Dr Stephen Young, Cathie Bree-Aslan, Anna Colbourn - Journal of Community Nursing, April 2009, Vol. 23, Issue 4, pp. 28-31.	"**Parafricta fabric: Can it reduce the potential for pressure damage"**	25 Nursing Home residents (Grade 1 or 2 Pressure Ulcer damage to sacrum and/or heel. 28 measurements in total).	Parafricta Bootee or Undergarment added to standard preventative measures at week 0, according to damage location. ○	For heel: the comparator was the patients untreated other heel. For sacral ulcers, comparisons were made with scans of normal skin. ○ Bootee
Study 5: Smith and Ingram (2010) - Journal of Wound Care Vol. 19, no 12, December 2010, pp.535-42.	**"Clinical and cost effectiveness evaluation of low friction and shear garments"**	Hospital Patients in medical and orthopaedic wards(with a Waterlow score of ≥15 (i.e. patients at high or very high risk of pressure ulceration) with or without pressure ulceration on admission who were unable to reposition independently.)	○ Parafricta Bootee or/and Undergarment added to standard pressure ulcer preventative measures in the clinical centre on at risk patients : Cohort 2	Cohort 1: standard pressure ulcer preventative measures (without the addition of Parafricta)

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Study 6: Stephen-Haynes et al - Wounds UK, 2011, Vol. 7, No 4, pp. 76-84.	**"Clinical outcomes using a low friction and shear garment in the care home setting"**	25 Nursing Home patients at-risk of or with a pressure ulcer of category 2 or less (EPUAP, 2009) Identified by contributory factor causing skin damage.	○ Parafricta Bootee or/and Undergarment added to standard approach. All patients were treated with the standard approach to the prevention and management of pressure ulcers i.e. as outlined by the NICE guidance (2005), EPUAP (2009) and the Institute for Healthcare Improvement (IHI) (2011).	○ Standard intervention of patient turning and positioning on foam or an alternating air flow mattress. • All patients were treated with the standard approach to the prevention and management of pressure ulcers i.e. as outlined by the NICE guidance (2005), EPUAP (2009) and the Institute for Healthcare Improvement (IHI) (2011).
Study 7: Stephen-Haynes and Holly Bardsley – 2012 - *Poster Worcestershire Health and Care NHS*	**"The implementation of a low friction and shear garment across a primary care organisation"**	With clinical governance approval an evaluation on low friction garments was undertaken with clients over 18 years, residing in a care home at risk of category 2 pressure ulcer (EPUAP 2009)		•
Study 8: Stephen-Haynes and Rosie Callaghan – 2012- *Poster Worcestershire Health and Care NHS*	**"The implications of an evaluation of a low friction and shear garment in the care home setting"**	25 Nursing Home patients at-risk of or with a pressure ulcer of category 2 or less (EPUAP, 2009) Identified by contributory factor causing skin damage.	○ Parafricta Bootee or/and Undergarment added to standard approach.	• Standard intervention of patient turning and positioning on foam or an alternating air flow mattress.
Study 9: LOEHNE, H.B. (2013). *Poster presentation,* SAWC Spring Meeting (USA).	**"Clinical Study of Device to Assist in Prevention of Heel and Foot Pressure Ulcers."**	Nursing Home patients	Parafricta Bootee added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface.	• Added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface. • Photograph of starting skin condition.
Study 10: Jacqueline Denyer & DebRa UK - 2012- *Poster Great Ormond Street Hospital NHS*	**"Reduction of friction and shearing forces in Epidermolysis Bullosa"**	A pillowcase incorporating Parafricta fabric was given to 1 infants and children who have severe form of EB		

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Study 11: GLEESON, D (2015) British Journal of Nursing (Tissue Viability Supplement) 24 (6)	**"Pressure ulcer reduction using low-friction fabric bootees"**	Acute Hospital patients	Routine use of Parafricta slip on bootee over a 2 year added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface. to	• Results obtained prior to the introduction of Parafricta bootees • Incidence of grade 2 heel pressure ulcers
Study 12: Dr Amber Young , Chief Investigator Date of study: 1st July 2015 – 30th of June 2017 – University Hospitals Bristol NHS Foundation Trust	**"Can skin grafting success rates in burn patients be improved by using a low friction environment – a feasibility study" (SILKIE)**	Target number of participants: 200 1. Aged between 4 weeks to 100 years 2. Study particpants requiring skin grafting of burn injured skin as part of the planned care 3. Nursed on bed and admitted overnight or longer to one of the three burns services	• Feasibility of using low-friction bedding in skin grafted, burn injured patients will be determined through interviews with patients and carers at 3 months (primary outcome measures) • Success of low-friction bedding improving skin grafting rates will be determined at 21 months by comparing the success rate in the study to the national burn injury database (secondary outcome measures)	• Multi-centre non randomised interventional study
Study 13: GLEESON, D (Nov 2016) Wounds UK Vol 12 No4 and poster at Wounds UK 2016 (Harrogate)	**"Heel pressure ulcer prevention: a 5 year initiative using low-friction bootees in a hospital setting"**	Acute Hospital patients	• Routine use of Parafricta slip on bootee over a 5 year period added to standard intervention of patient turning and positioning on a pressure reducing/redistributing surface.	• Results obtained prior to the introduction of Parafricta bootees • Incidence of grade 2 heel pressure ulcers
Study 14: CEDAR trial Keith Harding, Chief investigator – Cardiff and Vale UHB Date of study: 1st Oct 2017 – 30th of Sept 2019 –	**"parafricta bootees versus UK standard care to prevent heel pressure ulcers"**	Acute hospital patients A multicentric pragmatic randomised controlled trial with blinded assessment at three day and fourteen day	• Group 1: Parafricta bootees added to standard care (n=225) • Group 2: standard care alone (n=225)	

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Study 15: GEFEN, A (Nov 2017) British Journal of Nursing (Tissue Viability Supplement)	**"Why is the heel particularly vulnerable to pressure ulcers"**		• Tissue (shearing) deformations are the primary cause of heel ulcers o Internal mechanical interactions in tissues of the posterior heel o The effect of tissue distortion on cell viability and function o The concept of coefficient of friction o Microclimate at the heel-support surface o Emerging technologies for protecting the heel tissues	
Study 16: CUNNINGHAM, L. (April 2018). Northampton General Hospital NHS - *Poster presentation,* TVS 2018 conference Newcastle (UK). (tbc)	**"Reducing the incidence of heel pressure ulcers – Pressure Ulcer change package project"**	Acute hospital patients		
Study 17: SCHOFIELD, A. (June 2018) British Journal of Nursing (Tissue Viability Supplement) (tbc)	**"Full circle of integrated care using Parafricta® low-friction Heel Protectors" (WORKING TITLE)**	1)Stroke ward GRIMSBY Diana Princess of Wales hospital - heels 2) Intermediate community care hospital – Sir John Mason house (patients come in from hospital as step down and also admitted through community, run by community nurses.) 3) A residential care home with DN cover. Treatment of cat 1 and 2, red heels – react to red, using photographic, pressure mapping & Doppler evidence before and after. Number of subjects – 10 per site, so 30 in total.		

Clinical Papers

Author	Published	Title	Conclusion
Sylvia Hampton	JCN 2009	Parafricta material, can it reduce the potential for pressure damage	There is a relationship between reduction of oedema and inflammation under the epidermis and the wearing of Parafricta garments. Thisleads to the conclusion that Parafricta should be considered for any resident or patient that is at risk of pressure damage related to shear and friction.
Glenn Smith	JWC 2010	Clinical and cost effectiveness evaluation of low friction and shear garments	Low friction garment products have a role to play in the prevention of skin breakdown and appear to be both clinically effective and cost effective
Jackie Stephen Haynes	Wounds UK 2011	Clinical outcomes using a low friction and shear garment in the care home setting	Improvement in the skin with less redness, oedema and a reduction in friction. Parafricta is an additional resource that can aid the management of patients at risk of pressure damage
Jacqui Fletcher	Wound Essentials 2015	Articulated bedframes and heel ulcer prevalence	Heels are a specifically high risk area because of their shape and anatomy, it appears that heel ulcers are becoming more prevalent and increasingly challenging to treat.
NICE	Guidelines 2015	Section 7	Parafricta bootees and undergarments reduce skin breakdown in people with or at risk of pressure ulcers
Debbie Gleeson	BJN 2015	Pressure ulcer reduction using low friction fabric bootees	Implementing the use of the low-friction fabric bootees has provided a good stategy for ST. Helens and Knowsley Teaching Hospitals NHS Trust, for ensuring a reduction not only in heel pressure ulcer incidence but also in achieving zero harm targets and providing substantial cost benefits
Jacqui Fletcher	Wounds UK 2016	Does friction play a role in the occurrence of pressure ulcers	Recommends that silk-like fabrics shoud be considered for use among people who are at risk of pressure ulcer formation
Debbie Gleeson	Wounds UK 2016	Heel pressure ulcer prevention - A 5 year initiative using low-friction bootees in a hospital setting	Low-friction bootees when used in routine practice have played a part in reduction of heel pressure ulcers and in particular the decline in the proportion of heel pressure ulcers to pressure ulcers on other sites. The reduction in heel pressure ulcers led to significant savings for the Trust.