

Support Surface Selection: A Practice Evaluation

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Objectives

- During this session participants will:
 - Explore choosing therapeutic support surfaces not just for individual clients, but for facilities
 - Discover the results of our practice evaluation
 - Apply the lessons we learned to their own practice setting

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Scope of the Problem

- 26% of residents in the Canadian Health Care System have a pressure ulcer, with many more residents at risk
- 70% of pressure ulcers are preventable
- Support surfaces are one critical piece of the prevention and management plan.

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History of the Therapeutic Support Surfaces Tool

- Developed in 2008 in response to changes in support surface terminology and the desire facilitate the implementation of research into practice
- Suggests the selection of support surfaces based on risk or number of wounds, and mobility

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Figure 1: Therapeutic Support Surface Selection Tool

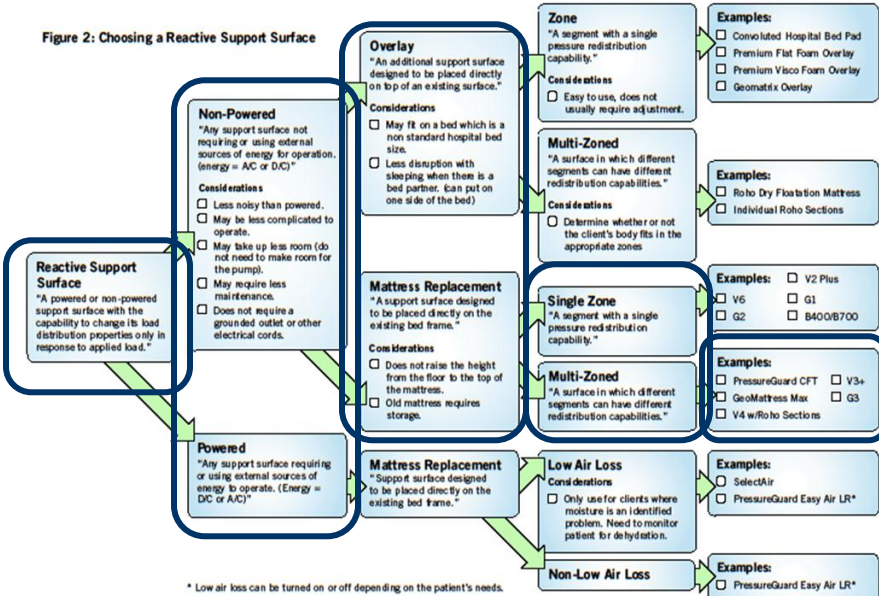
	Validated Risk Assessment Category or Pressure Ulcer Description			
	At risk Or Redness present which fades quickly when pressure removed	Moderate risk Or One pressure ulcer (excluding the heels) where the client can be positioned off the ulcer	High Risk Or One pressure ulcer (excluding the heels) and redness over another area	Very High Risk Or Multiple pressure ulcers (excluding the heels) or the client can not be positioned off of an ulcerated area
Total assist to change position in bed	Reactive Support Surface (non powered) (e.g. air/gel/foam overlay)	Reactive Support Surface (e.g. air/gel/foam overlay)	Active Support Surface Multi-Zoned Surface (e.g. alternating pressure mattress, rotational surface) or a Powered Reactive Support Surface (e.g. low air loss)	Active Support Surface Multi-Zoned Surface (e.g. alternating pressure mattress, rotational surface)
Moderate assistance with bed mobility required.	Reactive Support Surface (non powered) (e.g. air/gel/foam overlay or high density foam mattress)	Reactive Support Surface (e.g. foam overlay with air section insert in the wound area)	Reactive Support Surface (non powered) (e.g. foam overlay with air section insert in the area of the wound)	Active Support Surface Multi-Zoned Surface (e.g. alternating pressure mattress, rotational surface)
Client independent with or without a device with bed positioning (light assist may be required)	Reactive Support Surface (e.g. high density foam mattress)	Reactive Support Surface (e.g. foam overlay with air section insert)	Reactive Support Surface (non powered) (e.g. air/gel/foam overlay)	Powered Reactive Support Surface (e.g. low air loss – if the controls can be placed within the client's reach)

Original version published in: Norton L, Coultis P, Sibbald R **A Model for Support Surface Selection as a part of pressure ulcer prevention and management: a preliminary study. World Council of Enterostomal Therapists. Volume 28, Number 3 (July/September) 2008**

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Figure 2: Choosing a Reactive Support Surface



Source: National Pressure Ulcer Advisory Panel. Terms and Definitions Related to Support Surfaces. <http://www.npuap.org/NPUAP_S3.LTD.pdf>. Accessed 03/21, 2007.

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Since then.....

- Very positive feedback from therapists and other health care professionals
- Used for the application for funding for support surfaces
- Published:
 - Norton L, Coutts P, Sibbald RG. Beds: Practical Pressure Management for Surfaces/Mattresses. *Advances in Skin & Wound Care*, 24(7), 2011, 324-332. in *Advances in Wound Care* (Summer 2011)
 - RNAO best practice recommendations for the prevention of pressure ulcers
 - Canadian Spinal Cord Injury Guidelines (publication pending)

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**Could this model be used
to select surfaces for a
population rather than an
individual?**

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- Long term care centre with different populations
 - Extended care
 - Intermediate care
 - Special care unit
 - Multilevel care
 - Assisted living



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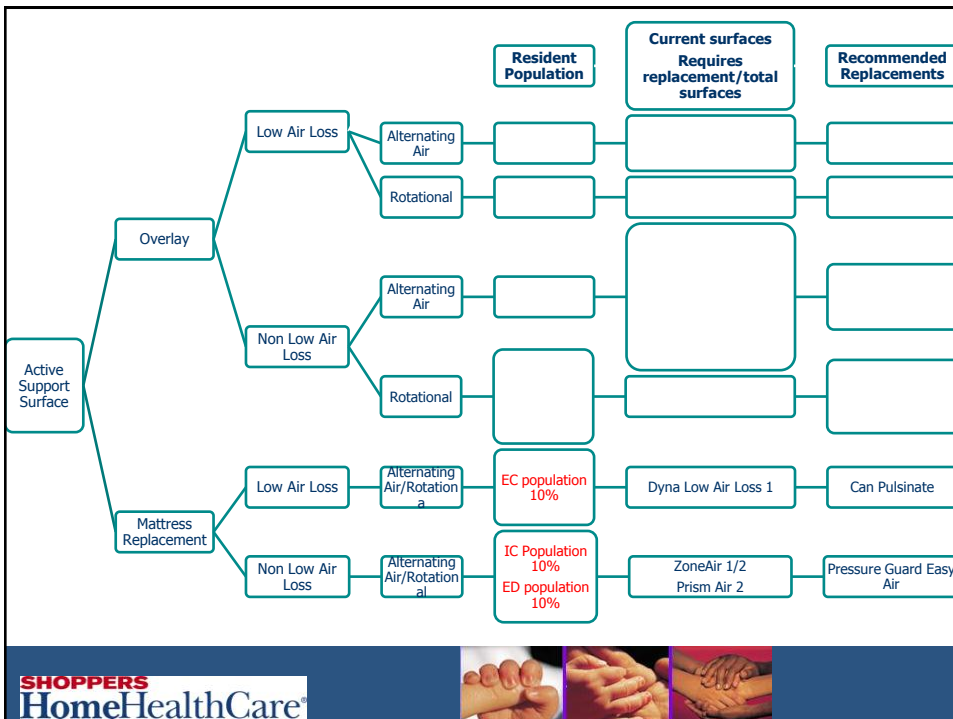
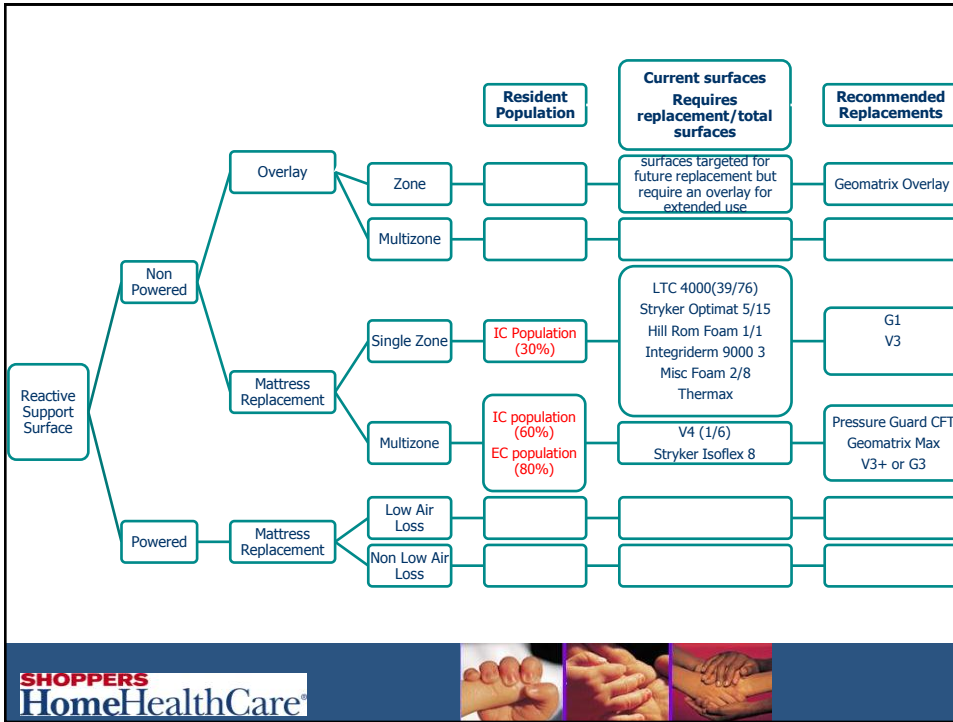


Process

- Worked together to identify the
 - Needs of the residents
 - Current support surfaces
 - Suggested distribution of surfaces
- Once purchased, engaged in a practice review looking at the resident parameters.

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PRACTICE EVALUATION

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Results (n=34)

Diagnosis	Number	Diagnosis	Number
Hypertension	15	Depression	6
Dementia	12	Osteoarthritis OA	4
Neurological Condition - Progressive	11	Spinal Cord Injury	3
UTI	10	Aerial Fibrillation	3
Arthritis	7	Alzheimer's	3
Hypothyroid	7	Cancer - Prostate	3
Diabetes	6	CHF	3
Neurological Condition - Acquired	6	MRSA	3
Orthopedic	6	Osteoporosis	3
CVA	6		

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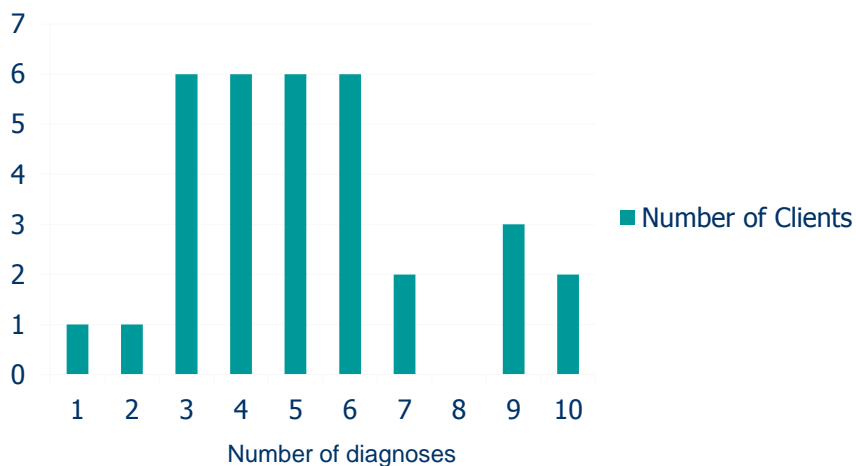


Drop outs

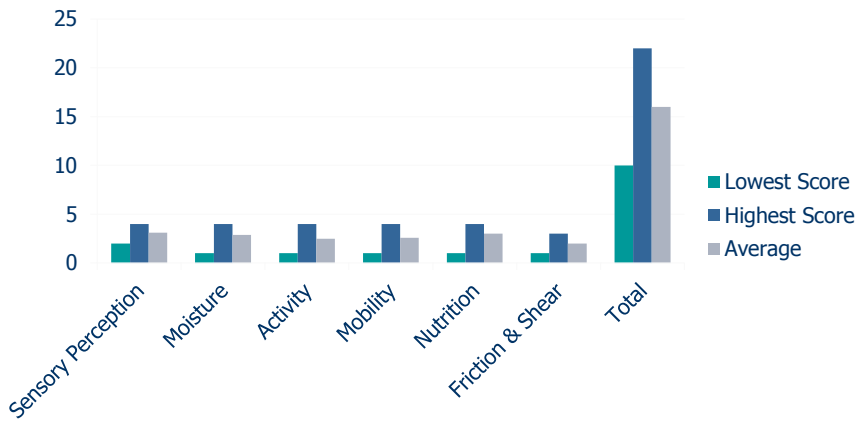
Client	Reason
2	Unable to complete data
3	Received donated mattress outside of this study
4	Missing data
7	OT distracted by pressure mapping images and choice was not made by using algorithm
11	Missing data
17	Received a new mattress prior to this evaluation which was working well.



Numbers of Diagnoses



Braden Score Distribution



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Factors Contributing to Skin Breakdown

Factor	#	Factor	#
History of previous pressure ulcer	9	Recent acute illness	1
Daily Pain	8	Shortness of breath	1
Very thin/bony	3	Broken bone	1
Recent significant weight loss	2	Catheter	1
Non-adherence to the treatment plan	2	Contractures Risk	1
Aggressive	2	Double incontinent	1
Falls risk/history	2	Involuntary movement of limbs	1
Moisture	2	Nutritional regime	1
No functional movement	2	Skin tears history	1
No offload	2	Slow healing	1
Very Fragile/frail	2	Weight increase	1

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Wound Profile

- 10 clients had wounds
- Stage 1 and 2 wounds
- Locations:
 - Sacrum (4)
 - Ischial tuberosity (1)
 - Leg/knee (4)
 - Buttocks (5)
 - Heel (2)

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Change in PUSH Score

Client	Location	Change
8	Left IT	-1
27	Sacrum/ L buttock	0
32	R Buttock	0
33	Sacral/Coccyx	11
40	L Buttock	2
40	R Buttock	-1
40	R Buttock	2
41	R Heel	11
41	R Heel	4

Resident Distribution

	At Risk	Moderate Risk	High Risk	Very High Risk
Total Assist	8 (Reactive)	6 (Reactive)	2 (Active)	3 (Active)
Moderate Assist (2)	4 (Reactive)			1 (Active)
Independent (5)	2 (Reactive)			

Appropriate surfaces were available for each resident

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Lessons Learned

- It is easy to get distracted by the pressure map results (e.g. peak pressure values)
- Education is needed: Staff saw the mattress change, creating the perception that the heels were addressed and the “magic mattress will heal all”
- Algorithm is a place to start, but selection still requires clinical judgment

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Lessons Learned

- Use caution with surfaces with transfer borders. The borders may cause breakdown
- Fall risk and entrapment issues also need to be addressed



Limitations

- Only pressure mapped in supine
- Did not pressure map with incontinence pads and slider sheets in place



Value of doing the practice review

- Facilitated the OT seeing more residents thus identified other needs (usually on a consult basis only),
- Enhanced our ability to be preventative
- Updated the Braden Scores
- Opportunity to educate residents and staff e.g.
 - keeping the head of the bed below 30 degrees,
 - how to complete head to toe skin checks
 - etc

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Value of doing the practice review

- Team effort! (Developed stronger interdisciplinary relationship with therapy and RN) "sharing is caring"
- Great opportunity for the new RN to interact with residents and staff members
- Discovered some new wounds during the assessment

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Value of doing the practice review

- Facilitated an update of the equipment list
- Resulted in approval for purchase of a pressure mapping system
- Family liked follow up
- Understanding staff and RN/LPN levels of education and comfort with wound recommendations

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Challenges of doing the practice review

- Needed lots of resources to do the project
 - good project for students at the university; or student placement

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Next Steps

- Consider using the tool to help determine capital budget purchases
- Consider doing future practice evaluations using the tool



Final thoughts

- This tool can be used to help inform capital budget purchases
- Clinical judgment is still required to ensure that the client receives the most appropriate support surface
- There are benefits to doing a practice evaluation including opportunities for education, team work and identification of other needs



Questions and Thank You



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