

Pathways Summer 2022

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REFERENCES

Assessment of head and neck lymphedema (page 5)

By Marize Ibrahim

References

1. WHO Expert Committee on the Selection, Use of Essential Medicines, & World Health Organization. (2014). The Selection and Use of Essential Medicines: Report of the WHO Expert Committee, 2013 (including the 18th WHO Model List of Essential Medicines and the 4th WHO Model List of Essential Medicines for Children) (Vol. 985). World Health Organization.
2. Canadian Cancer Statistics Advisory Committee in collaboration with the Canadian Cancer Society, S.C.a.t.P.H.A.o.C. Canadian Cancer Statistics 2021. Toronto, ON: Canadian Cancer Society (2021).
3. Kreimer, A, Clifford G, Boyle P, Franceschi S. Human papillomavirus types in head and neck squamous cell carcinomas worldwide: A systematic review. *Cancer Epidemiol Biomarkers Prev* 2005, 14:467-475
4. Jeans, C., Brown, B., Ward, E. C., Vertigan, A. E., Pigott, A. E., Nixon, J. L., & Wratten, C. (2020). Comparing the prevalence, location, and severity of head and neck lymphedema after postoperative radiotherapy for oral cavity cancers and definitive chemoradiotherapy for oropharyngeal, laryngeal, and hypopharyngeal cancers. *Head & neck*, 42(11), 3364-3374.
5. Pfister, D. G., Spencer, S., Adelstein, D., Adkins, D., Anzai, Y., Brizel, D. M., ... & Darlow, S. D. (2020). Head and neck cancers, version 2.2020, NCCN clinical practice guidelines in oncology. *Journal of the National Comprehensive Cancer Network*, 18(7), 873-898.
6. Jeans, C., Brown, B., Ward, E.C. & Vertigan, A.E. Lymphoedema after head and neck cancer treatment: an overview for clinical practice. *British journal of community nursing* 26, S24-S29 (2021).
7. Cohen, E. E., LaMonte, S. J., Erb, N. L., Beckman, K. L., Sadeghi, N., Hutcheson, K. A., ... & Pratt-Chapman, M. L. (2016). American Cancer Society head and neck cancer survivorship care guideline. *CA: a cancer journal for clinicians*, 66(3), 203-239.
8. Anand, A., et al. Secondary lymphedema after head and neck cancer therapy: a review. *Lymphology* 51, 109-118 (2018).
9. Deng, J., et al. Prevalence of secondary lymphedema in patients with head and neck cancer. *Journal of pain and symptom management* 43, 244-252 (2012).
10. Smith, B. G., Hutcheson, K. A., Little, L. G., Skoracki, R. J., Rosenthal, D. I., Lai, S. Y., & Lewin, J. S. (2015). Lymphedema outcomes in patients with head and neck cancer. *Otolaryngology–Head and Neck Surgery*, 152(2), 284-291.
11. Starmer, H. M., Drinnan, M., Bhabra, M., Watson, L. J., & Patterson, J. (2021). Development and reliability of the revised Patterson Edema Scale. *Clinical Otolaryngology*, 46(4), 752-757.
12. Smith, B. G., & Lewin, J. S. (2010). The role of lymphedema management in head and neck cancer. *Current opinion in otolaryngology & head and neck surgery*, 18(3), 153.



Rethinking the safety net: The case of public support for revamped (or expanded) lymphedema care (page 8)

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References

1. McHorney CA. Health status assessment methods for adults: past accomplishments and future challenges. *Annu Rev Public Health*. 1999;20:309-35. doi:10.1146/annurev.publhealth.20.1.309
2. Kerrigan CL, Collins ED, Striplin D, et al. The health burden of breast hypertrophy. *Plast Reconstr Surg*. Nov 2001;108(6):1591-9. doi:10.1097/00006534-200111000-00024
3. Almadani YH, Gilardino MS. Cost-Effectiveness Analysis, Psychosocial, and Utility Outcomes of Early Mandibular Distraction in Craniofacial Microsomia. *J Craniofac Surg*. Oct 2020;31(7):1888-1894. doi:10.1097/scs.0000000000006622
4. Teotia SS, Alford JA, Kadakia Y, Haddock NT. Crowdsourced Assessment of Aesthetic Outcomes after Breast Reconstruction. *Plastic and Reconstructive Surgery*. 2021;147(3):570-577. doi:10.1097/prs.0000000000007637
5. Tse RW, Oh E, Gruss JS, Hopper RA, Birgfeld CB. Crowdsourcing as a Novel Method to Evaluate Aesthetic Outcomes of Treatment for Unilateral Cleft Lip. *Plastic and Reconstructive Surgery*. 2016;138(4):864-874. doi:10.1097/prs.0000000000002545
6. (CLF) Clf. <https://canadalymph.ca/physician-card/>
7. Boyages J, Xu Y, Kalfa S, et al. Financial cost of lymphedema borne by women with breast cancer. *Psychooncology*. 2017;26(6):849-855. doi:10.1002/pon.4239
8. Paoli CJ, Reynolds MA, Sinha M, Gitlin M, Crouser E. Epidemiology and Costs of Sepsis in the United States-An Analysis Based on Timing of Diagnosis and Severity Level. *Crit Care Med*. 2018;46(12):1889-1897. doi:10.1097/CCM.0000000000003342

Inequities in garment funding across Canada: where are we in 2022? (page 12)

By Mona Al Onazi, Erica Park and Michelle Phung

References

1. Keast DH, Moffatt C, Janmohammad A. Lymphedema impact and prevalence international study: the Canadian data. *Lymphatic Research and Biology*. 2019;17(2):178-86.



2. Finnane A, Janda M, Hayes SC. Review of the evidence of lymphedema treatment effect. *American journal of physical medicine & rehabilitation*. 2015;94(6):483-98.
3. Fu MR, Ridner SH, Hu SH, Stewart BR, Cormier JN, Armer JM. Psychosocial impact of lymphedema: a systematic review of literature from 2004 to 2011. *Psycho-oncology*. 2013;22(7):1466-84.
4. Paskett ED, Dean JA, Oliveri JM, Harrop JP. Cancer-related lymphedema risk factors, diagnosis, treatment, and impact: a review. *Journal of Clinical Oncology*. 2012;30(30):3726-33.
5. Vignes S, Poizeau F, Dupuy A. Cellulitis risk factors for patients with primary or secondary lymphedema. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*. 2022;10(1):179-85. e1.
6. Grada AA, Phillips TJ. Lymphedema: Pathophysiology and clinical manifestations. *Journal of the American Academy of Dermatology*. 2017;77(6):1009-20.
7. Cranendonk D, Lavrijsen A, Prins J, Wiersinga W. Cellulitis: current insights into pathophysiology and clinical management. *Neth J Med*. 2017;75(9):366-78.
8. Roberson ML, Strassle PD, Fasehun L-KO, Erim DO, Deune EG, Ogunleye AA. Financial Burden of Lymphedema Hospitalizations in the United States. *JAMA oncology*. 2021;7(4):630-2.
9. Queensland Health lymphoedema clinical practice guideline 2014. https://www-health-qld-gov-au.login.ezproxy.library.ualberta.ca/__data/assets/pdf_file/0027/146646/guideline-lymph.pdf.
10. Damstra RJ, Halk A-B, Damstra R, Halk B, van den Berg J, Born Y, et al. The Dutch lymphedema guidelines based on the International Classification of Functioning, Disability, and Health and the chronic care model. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*. 2017;5(5):756-65.
11. McNeely ML, Dolgoy ND, Rafn BS, Ghosh S, Ospina PA, Al Onazi MM, et al. Nighttime compression supports improved self-management of breast cancer-related lymphedema: A multicenter randomized controlled trial. *Cancer*. 2022;128(3):587-96.
12. Ridner SH, Dietrich MS, Kidd N. Breast cancer treatment-related lymphedema self-care: education, practices, symptoms, and quality of life. *Supportive Care in Cancer*. 2011;19(5):631-7.
13. De Vrieze T, Nevelsteen I, Thomis S, De Groef A, Tjalma WA, Gebruers N, et al. What are the economic burden and costs associated with the treatment of breast cancer-related lymphoedema? A systematic review. *Supportive Care in Cancer*. 2020;28(2):439-49.
14. Boyages J, Xu Y, Kalfa S, Koelmeyer L, Parkinson B, Mackie H, et al. Financial cost of lymphedema borne by women with breast cancer. *Psycho-Oncology*. 2017;26(6):849-55.

Editor's Note

There was an error made in the chart on page 13 of Pathways Summer issue – specifically under daytime compression garment coverage.

CORRECTION: The 100% paediatric and low-income listed under New Brunswick should have been in the Quebec column. The ammended chart is listed below:

TABLE 1

REIMBURSEMENT ACROSS THE CANADIAN PROVINCES - 2022										
Component	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	New Brunswick	Nova Scotia	PEI	Newfoundland & Labrador
Daytime compression garments										
Inclusion	Post-mastectomy and lumpectomy	Primary and Secondary LE	Primary and Secondary LE	Primary and Secondary LE	Primary and Secondary LE	Primary and Secondary LE	Primary and Secondary LE	Primary and Secondary LE	None	Primary and Secondary LE
Coverage %	100% sleeves (based on income & annual PharmaCare limit prior to receiving full coverage) Glove/ gauntlet \$150 maximum for ready-made & \$300 maximum for custom garment	75% of benchmark price 100% for low-income only	100%	100% for low income only	75% of garment cost based on list of approved garments and manufacturers 100% for low income	75% adult up to a government maximum 100% paediatric and low-income	100% for low income only	100% for low income only	None	100% for low income only based on assessment
Number per year	2 garments and gloves/ gauntlets	3 ready-made garments OR 2 custom compression garments per affected limb	4 daytime garments (garment and glove) per limb		6 garments per limb per year	3 per affected limb ready-made or custom 6 for children 3 standard or custom garments for the trunk	2 ready-made	1 per year	None	2 per year for those who qualify. Both upper and lower, custom and non-custom
Details		Annually: 1 garment per limb can be replaced with a VELCRO® wrapped system			VELCRO® fastened devices are also covered. 2 per limb per year.	Additional: 1 non-elastic compression garment (e.g. VELCRO® wrapped system) Accessories: garment glue or donner or rubber gloves (1 per limb)	Custom compression garments and compression wrap should meet specific criteria	2 set ups every 2 years		Paediatric patients assessed for eligibility and need
Multilayer compression bandaging										
Compression multilayer bandaging	No	Yes (if patients are seen at public hospital only)	Yes	Yes (if patients are seen by Homecare)	No (unless patient seen by Homecare. Eligibility varies by region)	Yes	Yes (if patients are seen at a public hospital only)	Yes (if seen by Homecare)	No	Yes (if seen by hospital or community based clinics)
Types of bandaging supplies		Coban 2; tubigrip/ flexigrip/ surgigrip; edema wear: foam; stockinet; moisturizers and cleansers 2 sets of Comprilan with comfort layer for patients who self-bandage	Bandaging supplies: foam, artiflex, short-stretch bandages, swell spots and scar pads Accessories/ supplies: gel sheets, adhesives, stocking applicators, donning gloves	Coban 2 provided if treated by Homecare	Variable	1 set of multilayer compression bandages per limb Include: Comprilan, Cellona, foam, stockinette, Coban 2, short-stretch bandages	Short stretch bandage and foam/cotton padding	Coban 2 provided if treated by Homecare		Coban 2 plus certain products related to wound care and edema covered through hospital or community based clinics Patients attending private clinics purchase their own bandaging supplies
Nighttime compression garments										
Nighttime compression garments	No	No	Yes – for clients with stage 2/3 lymphedema	No	Yes - can replace one of the set ups above	Yes	Yes – can replace one of the set ups above	No	No	Based on clinical assessment and need
Number and Frequency	Not applicable		1 per limb every 2 years			1 per limb per year 2 per child per year Trunk and neck garments – if approved				2 per year for those who qualify. Both upper and lower, custom and non-custom

ASK THE EXPERT:

Lipedema management (page 11)

By Tobias Bertsch MD

For this reason the International Consensus Document suggests this therapeutic concept.

https://theila.net/fileadmin/user_upload/ILA/JWC_Consensus_Lipoedema.pdf

There is a mobile app for everything – including lymphedema

By Anna Kennedy

Acknowledgements: Thanks to Rachel Li, CLF Communications Coordinator for contributing to this article by scouring the Internet to find relevant mobile applications.

For a full list of the apps available and the link to their websites, please refer to references@pathways.ca



Name of App	Target Audience	What the app is meant to do (access therapists, track self-measurements, find educational material etc.)	Who makes or sponsors the app	Where to purchase/download and access these apps	Link to Download	Cost	Screenshot
LymEx	Anyone with lymphedema	This is an information provision app with 4 key messages: Skin care - how and why to care for skin and nails, Simple lymphatic drainage - arm, leg and head and neck massage sequences, Garment care - tips for wear and care, Exercises - reasons for exercises and examples of lymphatic circulation exercises	Lymphoedema Support Network, Lymphoedema Network Northern Ireland, MED	Available on Apple iOS via the App store and Android via Google Play	https://apps.apple https://play.google	Free	https://drive.google.com/d
LymphaTech	Healthcare professionals	LymphaTech is a novel 3D measuring system to enhance the accuracy and reliability human geometric measurements. LymphaTech's easy-to-use mobile system standardizes the measurement process and reduces inter-operator variability by 75%, resulting in accurate volume and circumference measurements in less than 60 seconds. Built for use with the Structure Sensor by Occipital.	LymphaTech	Available on Apple iOS via the App store	https://apps.apple	Free	https://drive.google.com/d
Lymphatrack	Healthcare professionals	Lymphatrack provides a platform for users to record lymphoedema symptoms and self-care treatments. Data can be entered daily, and the app creates graphs to monitor progress over time.	Mego Afek - Israel Pharmaceutical Company	Available on Apple iOS via the App Store and in an Android version via Google Play	https://apps.apple https://play.google	Free app available in English, Spanish, German, French and Russian versions.	https://drive.google.com/d
LymVol – Lymphoedema Limb Volume Calculator	Healthcare professionals and patients	Users enter their circumferences and the app calculates a limb volume. Volume calculations are used to produce:distal, proximal and total volume(s) for each limb and a distal/proximal ratio total excess volume in ml and as a percentage relative to the other limb.	Lymphoedema Training Academy	Available on Android via Google Play	https://play.google https://apps.apple	\$20.99	https://drive.google.com/d
Sitting Leg Workout	Patients who may not be able to stand/ low mobility looking for exercise to do	Sitting Leg Workout features exercises for your legs that will tone your quads, hamstrings, glutes and abs, but at the same time will make you sweat and burn calories.	N/A	Available on Android via Google Play	https://play.google	Free	https://drive.google.com/d
Stanford Lymphedema	Patients	Award winning, nationally recognized, Dr. Dung Nguyen of the Division of Plastic Surgery at Stanford, has created an all new experience to help you get ready for your lymphedema surgery. Keeping track of your upcoming tasks is a breeze. Your customized timeline will help you prepare and notify you if you have forgotten anything. There are tips and information cards that are designed to help you understand and plan stress free.	Stanford University Division of Plastic Surgery	Available on Apple iOS via the App store	https://apps.apple	Free	https://drive.google.com/d