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Review

## Standards and Definitions in Neck Dissections of Differentiated Thyroid Cancer

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### Abstract

Papillary and follicular thyroid carcinomas arising from the follicular epithelial cells and forming differentiated thyroid cancer (DTC) consist of >95% of thyroid cancers. Lymph node metastases to the neck is common in DTC, especially in papillary thyroid cancer. The removal of only the metastatic lymph nodes (berry picking) does not help to achieve a potential positive contribution to the survival and recurrence of lymph node dissection in the DTC. Thus, systematic dissection of the cervical lymph nodes is needed. Today, according to the widely accepted and commonly used definitions and lymph node staging, the deep lymph nodes of the lateral side of the neck are divided into five regions, based on the fact that some groups have biologically independent regions. Groups I, II, and V are divided into the A and B subgroups. The central region lymph nodes contain VI and VII region lymph nodes, which consist of the pretracheal, paratracheal, and right and left paratracheal lymph node groups.

Radical neck dissection (RND) is accepted as the standard basic procedure in defining neck dissections. In this method, in addition to all the regions of the Groups I-V lymph nodes at one side, the ipsilateral spinal accessory nerve, internal jugular vein, and sternocleidomastoid muscle are removed. Sparing of one or more of the routinely removed non-lymphatic structures in the RND is called modified RND (MRND), whereas the preservation of one or more of the routinely removed lymph node groups in the RND is termed as selective neck dissection (SND). In difference, the procedure with an addition of a lymph node and/or non-lymphatic structures to routinely removed neck structures in RND is called extended RND. Generally, involving one or more regions of SND are applied for DTC.

The removal of the paratracheal, pretracheal, and paratracheal lymph node groups at one side is termed as ipsilateral central dissection, whereas the removal of the bilateral paratracheal lymph node groups, in other words, the removal of four lymph node groups in the central region (Groups VI and VII), is defined as bilateral central dissection. In conclusion, bilateral central neck dissection (CND) is the SND in which the regions of VI and VII are removed. In the DTC, CND is prophylactically and therapeutically applied, whereas lateral neck dissection is performed only therapeutically in the presence of clinical metastasis (N1b) in the lateral neck region. Debates on the extent of SNDs to be made in the central and lateral neck regions are ongoing. Central dissections should be made at least unilaterally in the lateral side of the neck. SNDs can be applied in different combinations in which at least one region from Groups I to V is removed. The main variables that determine the extent of SND in the central and lateral regions in DTC are the complication rates, the effect of the procedure, and its effect on prognosis and recurrence.

**Keywords:** Cancer; central; differentiated; dissection; lymphatic; thyroid.

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THE JOURNAL OF CLINICAL AND APPLIED RESEARCH AND EDUCATION VOLUME 45 | SUPPLEMENT 1

# Diabetes Care

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SUPPLEMENT  
**1**

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## STANDARDS OF MEDICAL CARE IN DIABETES—2022

American Diabetes Association  
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“This watershed paper underlines the importance of integrating a more comprehensive definition of clinical utility into clinical care to better serve the interests of cancer patients and the future of research in this rapidly evolving era of personalized medicine.”

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STANDARD OF CARE PRACTICE GUIDELINES STANDARD OF PRACTICE CLINICAL PATHWAY;



It results in general knowledge and an understanding of nature and its laws. Knowledge translation is not simply a linear procedure but involves many processes, systems and interactions of the researcher and knowledge users. 2012) and can be iteratively adjusted and refined to suit other contexts. The difference between EB and EI is that EB is grounded in the demonstrated positive outcomes discovered through scientific research or rigorous evaluation. [PubMed] [Google Scholar] Kumar S & Nash DB (2011) Demand Better! Revive Our Broken Health Care System in Health Care Myth Busters: Is There a High Degree of Scientific Certainty in Modern Medicine?. This process is likely to be facilitated if the instigator is an employee or has close links with staff at the target site. Through the translation of evidence, patient safety and care responses can be recalibrated to optimise outcomes for patients and staff. Clinical research: Patient-oriented research. Addressing this gap requires knowledge translation. Knowledge translation forms part of the knowledge-to-action cycle (Fig. 1) [Graham et al. Research involves considerable intellectual, time and financial commitments by researchers, participants and funding organisations. Lancet 378, 1699–1706. Interventions are used to promote uptake and optimal use of effective clinical services, and to promote healthy lifestyles' (Michie et al. [Google Scholar] Canadian Institutes of Health Research (CIHR) (2014) About Knowledge Translation and Commercialization. Guidance is provided to all patients on discharge on what to expect emotionally following injury and where they can seek help should they experience this. [Google Scholar] Schaffer MA, Sandau KE & Diedrick L (2013) Evidence-based practice models for organizational change: overview and practical applications. A summary of key knowledge translation terms is provided in Table 5. Nurse-led translational research example 2 - Changing State-wide Stroke Practice: The QASC Implementation Project (Middleton et al. Results: In total, 54% of patients experienced high levels of depression, anxiety and/or stress symptoms in the six months following injury. To describe the importance of, and methods for, successfully conducting and translating research into clinical practice. There is universal acknowledgement that the clinical care provided to individuals should be informed on the best available evidence. The transformation learning theory developed by Mezirow (Mezirow 1978, 2000, 2004) assists the process of knowledge translation through acknowledging the role and impact of attitudes and beliefs, which are constantly cited as barriers to research utilisation (MacDonald 2002, Brown & McCormack 2005, Davies et al. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W & Robinson N (2006) Lost in knowledge translation: time for a map? Available at: (accessed 15 January 2016). Conclusions: Translation of findings resulted in implementation of an intervention that for the first time in Australia provides a clear process for the screening and referral of the injured patient in need of mental health support. There are also many well-documented barriers to research translation. Journal of Nursing Care Quality 19, 297–304, 2010). Further, knowledge translation requires design and implementation of interventions. Implementation is a science and can be encompassed within the normalisation process theory, which characterises implementation as a social process of collective action (May 2013). Worldviews on Evidence-Based Nursing 4, 21–29. Epidemiologic and behavioral studies, outcomes and health services research' (National Institutes of Health 2001) Translational research: 'Translational research fosters the multidirectional integration of basic research, patient-oriented research, and population-based research, with the long-term aim of improving the health of the public. It is also important to conduct a stakeholder needs analysis to identify the key stakeholders and their expectations and needs with respect to the project outcomes. Implementation science: 'the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care' (Eccles & Mittman 2006). For example, to address beliefs about consequence, the interventions known to do this are education, modelling and persuasion. If they do (or do not), why and what difference does this make? The synthesis can then be presented to clinicians as practice guidelines or fact sheets (see, for instance, www.nhmrc.gov.au/guidelines/titles\_guidelines.htm or www.clinicalguidelines.gov.au for two Australian organisations providing practice guidelines, in the UK, for resuscitation, in Canada). Stakeholders: 'persons or groups that have a vested interest in a clinical decision and the evidence that supports that decision. 2011, 2015) Background: The Quality in Acute Stroke Care (QASC) Trial (Middleton et al.) determined that a multidisciplinary supported, nurse-initiated, evidence-based intervention involving supported implementation of clinical protocols to manage fever, hyperglycaemia and swallowing (FeSS protocols) following stroke decreased death and dependency by 16% (p = 0.002); reduced temperatures (p = 0.001) and glucose levels (p = 0.02); and improved swallowing management (p =

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