



Scottish Clinical Imaging network



INDICATIONS FOR THE USE OF ^{18}F -FDG PET CT IMAGING IN THE MANAGEMENT OF HEAD AND NECK CANCER

Background

^{18}F -FDG PET CT has been shown to be useful in the management of this numerical small but often complex group of patients. Original guidance was produced in 2008 with further updates in 2016 & 2020 by the SCIN PET CT Working Group and endorsed by the Regional Cancer Advisory Groups. This current iteration builds on these previous documents takes into account current clinical evidence, clinical management guidelines and expert opinion. Following a review of the available evidence and current clinical guidance there has been no alterations to the previously agreed criteria. PET CT remains a relatively limited resource and should primarily be used where the result of the scan would/could directly influence individual patient management and treatment.

Routine Indications

- Patients with biopsy proven metastatic cervical lymphadenopathy with no primary found on clinical examination and where CT/MRI are negative/equivocal. It is desirable to perform PET prior to biopsy of suspected but unproven primary sites. To expedite this process, if conventional imaging fails to identify a primary site, direct referral from the reporting specialist head and neck radiologist can be considered.
- To assess disease response, in conjunction with locally agreed policy, 3-6 months post (chemo)radiotherapy in patients with locally advanced, node positive, head and neck cancer
- In patients with clinically suspected disease recurrence post treatment in whom CT/MRI results are negative/equivocal.
- Staging of Nasopharyngeal cancer
- Staging of N3 head and neck cancer

- Staging of selected T4 cancer deemed high risk of metastatic potential by regional H&N MDT e.g. hypopharynx
- In selected cases of advanced disease where complex management decisions need to be made. Such patients must be referred through a multidisciplinary team process.

Thyroid cancer

- Treated differentiated thyroid cancer patients with rising thyroglobulin and negative or equivocal conventional imaging, including $^{131}\text{I}/^{123}\text{I}$, US and CT.
- In patients with iodine refractory differentiated thyroid cancer prior to starting Tyrosine Kinase Inhibitor (TKI) therapy
- In selected patients with differentiated thyroid cancer prior to radical treatment for recurrent locoregional disease or oligometastatic disease.

Non routine

- Patients with treated medullary carcinoma of thyroid with a raised calcitonin level and negative or equivocal conventional imaging (including ^{68}Ga DOTA PET CT).

Future Considerations

These guidelines will be reviewed on an ongoing basis in order to incorporate any significant changes to the existing evidence base.

References

Consensus Guidance on Routine Practice for Differentiated Thyroid Cancer in Scotland. National Thyroid Cancer Project. May 2020
<http://www.edinburghdiabetes.com/scottish-thyroid-cancer>

Cancer of the upper aerodigestive tract: assessment and management in people aged 16 and over. NICE guideline [NG36]. Published: 10 February 2016 Update 06 June 2018
www.nice.org.uk/guidance/ng36

Head and neck cancer
Quality standard Published: 3 March 2017
www.nice.org.uk/guidance/qs146

Clinical Practice in PET/CT for the Management of Head and Neck Squamous Cell Cancer
Reema Goel, William Moore, Baran Sumer, Saad Khan, David Sher, and Rathan M. Subramaniam. American Journal of Roentgenology 2017 209:2, 289-303

Head and Neck Cancer: United Kingdom National Multidisciplinary Guidelines. J Laryngol Otol. 2016 May; 130

Mehanna H, Wong W-L, McConkey, Rahman JK, Robinson M et al. PET-CT surveillance versus Neck Dissection in advanced Head and Neck cancer. NEJM March 23, 2016. DOI: 10.1056/NEJMoa1514493

Evidence-based indications for the use of PET-CT in the United Kingdom 2022. (RCR, RCP, BNMS, ARSAC) Published: July 2022

British Nuclear Medicine Society (2008) UK PET-CT Advisory Board - Clinical Indications for
Positron Emission Tomography
http://www.bnmsonline.co.uk/dmdocuments/pet-ct_indications_mar_2008.pdf

Facey, K., Bradbury, I., Laking, G. and Payne, E. (2007) Overview of the clinical effectiveness of positron emission tomography imaging in selected cancers. Health Technology Assessment. 11 (44)

NHS QIS (2006) SIGN guidelines Number 90, Diagnosis and Management of Head and Neck Cancers available at: <http://www.sign.ac.uk/pdf/qrg90.pdf>

National Institute for Health and Clinical Excellence (2004) Improving Outcomes in Head and Neck Cancer – The Manual

Yang SS, Wu YS, Chen WC, Zhang J, Xiao SM, Zhang BY, Liu ZQ, Chen EN, Zhang X, OuYang PY, Xie FY. Benefit of [18F]-FDG PET/CT for treatment-naïve nasopharyngeal carcinoma. *Eur J Nucl Med Mol Imaging*. 2022 Feb;49(3):980-991. doi: 10.1007/s00259-021-05540-8.