

Evidence Discussion (Neck 11.1)

Salivary Gland Pathology

- Current history and comprehensive head & neck exam are required prior to any advanced imaging for suspected salivary gland pathology.
- CT should be performed with IV contrast to distinguish vessels from lymph nodes and to confirm if a mass is hypervascular. Dual-phase CT imaging (without and with IV contrast) is not supported.²
 - CT performed only without IV contrast may be helpful in a small minority of cases including cases of follow-up for known salivary stones or post-sialography studies.
- A recent study in the American Journal of Neuroradiology comparing contrast enhanced and non-contrast enhanced CT in the evaluation of sialolithiasis demonstrated excellent sensitivity and specificity with no false-positive results using contrast-enhanced CT alone (without the addition of non-contrasted images for comparison). Benefits of initial only contrast-enhanced CT include better evaluation of the ductal system, improved soft tissue contrast in assessing salivary masses and decreased radiation dose (compared to dual phase CT imaging (without and with IV contrast)).³
- The preferred modality to evaluate suspected parotid lesions is MRI of the face and/or neck with and without IV contrast. It can provide comprehensive information about the full extent of the mass (ie, deep lobe involvement) and other local invasion (such as perineural tumor spread and possible extension into the temporal bone).
- Repeat Imaging (CT or MRI)⁴
 - There is currently no standard timeframe for repeat advanced imaging to follow known benign pathology of the salivary gland that has been resected—partially or completely, or only observed. This holds true even if the salivary lesion has the potential for recurrence or malignant transformation (i.e., pleomorphic adenoma).
 - Repeat advanced imaging, as requested by the surgeon or those in consultation with the surgical team, is indicated if recent history and exam demonstrate signs:
 - Concerning for complications of surgery, or
 - Recurrence or progression of neoplasm/lesion

References

1. Wilson KF, Meier JD, and Ward PD. Salivary gland disorders. Am Fam Physician. 2014 Jun;89(11):882-888
2. ACR Appropriateness Criteria® Neck mass/adenopathy. American College of Radiology (ACR). Date of origin: 2009. Last review date: 2018.

3. Purcell YM, Kavanagh RG, Cahalane AM, Carroll AG, Khoo SG, Killeen RP. The Diagnostic Accuracy of Contrast-Enhanced CT of the Neck for the Investigation of Sialolithiasis. *American Journal of Neuroradiology*. 2017;38(11):2161-2166. doi:10.3174/ajnr.a5353
4. Wittekindt C, Streubel K, Arnold G, Stennert E, Guntinas-Lichius O. Recurrent pleomorphic adenoma of the parotid gland: analysis of 108 consecutive patients. *Head Neck*. 2007;29(9):822-828. doi:10.1002/hed.20613