Standardized Approach to Incidental Sinus Disease Reporting on Brain CT and MRI

Dear Colleagues,

I hope this message finds you well. I am writing to address concerns raised by our ENT consultants regarding the reporting of incidental sinus disease in CT and MRI scans performed for other purposes, such as brain imaging. This often leads to unnecessary alarm and treatment demands from patients when minor sinus disease is reported.

**Proposed Severity-Based Classification for Incidental Sinus Disease:**

This severity-based classification aligns with common clinical practices and guidelines for evaluating sinus disease, providing a clear framework for reporting incidental findings in a manner that minimizes unnecessary patient anxiety and intervention.

The severity-based approach is supported by standard radiologic practices and various studies evaluating sinus pathology (if interested, you may refer to some of articles I have included in references below)

To provide clear, consistent, and clinically relevant reports, following severity-based classification system for incidental sinus findings is proposed:

1. Mild sinus disease:

   - Mucosal thickening less than 3mm.

   - Minimal opacification that does not involve all sinus walls.

2. Moderate  sinus disease:

   - Mucosal thickening between 3-10mm.

   - Partial opacification of less than 50% of one or more sinuses.

3. Severe sinus disease:

   - Mucosal thickening greater than 10mm.

   - Partial opacification greater than 50% of one or more sinuses.

   - Complete opacification of any sinus or presence of air-fluid levels.

***While the Mild diseases will rarely if ever need any treatment, moderate disease may need treatment if patient is symptomatic. Severe disease on the other hand does need specialist attention.***

I am sharing some Auto text entries which can be used to facilitate quick reporting of incidental sinus disease that is standardised across the department.

**Auto text Blocks for Report Body**

*Auto text name:*Mild sinus disease\*\*:

*Auto text content:* “Incidental mild mucosal thickening (i.e mild mucosal thickening less than 3mm) noted in the [specific sinus] , likely clinically insignificant.”

*Auto text name:*Moderates sinus disease:

*Auto text content:*“Incidental moderate mucosal thickening  (i.e. [mucosal thickening of 3-10mm] / [partial opacification of less than 50% of sinus]) seen in the [specific sinus]”

*Auto text name:*Severe sinus disease:

*Auto text content:*“Incidental severe sinus disease  (i.e. [mucosal thickening > 10mm] /  [partial opacification of more then 50% of sinus] / [complete opacification] / [sinus disease with air-fluid levels]) noted in the [specific sinus].”

**Auto text Blocks for Impression Disclaimer**

*Auto text name:*Mild sinus disease disclaimer.

*Auto text content:* “Incidental minor sinus disease detected, likely clinically insignificant. No further treatment or investigation is needed unless symptoms develop.”

*Auto text name:*Moderate to Severe sinus disease disclaimer:

*Auto text content:*“Incidental sinus disease detected. Consider ENT consultation for further evaluation and management if clinically indicated.”

**Why not use the Lund-Mackay Scoring System ?**

While the Lund-Mackay scoring system is effective for assessing chronic rhinosinusitis on specialist CT sinus scans, it may not be as appropriate for incidental findings on brain CT and MRI. Designed for symptomatic patients and surgical planning, it does not adequately address the clinical significance of minor incidental findings. Therefore, our proposed severity-based classification offers a more practical approach for these incidental findings.

*In conclusion,*

By adopting this severity-based classification for incidental sinus disease, we can ensure consistent, clear, and clinically relevant reporting, ultimately improving patient care and communication with our referring physicians.

Thank you for your attention to this matter.

Please feel free to reach out if you have any questions or require further discussion.

Feedbacks and proposals  for further additions or deletions are highly appreciated.

Best regards,

Dr Gaurav G.

Consultant Radiologist

Sunus sunisitis score on CT:

The **Lund-Mackay score** is a widely used method for radiologic staging of [chronic rhinosinusitis](https://radiopaedia.org/articles/chronic-sinusitis?lang=gb) 1.

When reading a CT scan of the [paranasal sinuses](https://radiopaedia.org/articles/paranasal-sinuses?lang=gb) and [ostiomeatal complex](https://radiopaedia.org/articles/ostiomeatal-complex?lang=gb), the reader assigns each sinus a score of:

* 0 (no abnormality)
* 1 (partial opacification) or
* 2 (complete opacification)

The ostiomeatal complex is assigned a score of either 0 (not obstructed) or 2 (obstructed).

The sinuses are grouped into:

* [frontal sinus](https://radiopaedia.org/articles/frontal-sinus?lang=gb)
* anterior [ethmoidal cells](https://radiopaedia.org/articles/ethmoidal-air-cells?lang=gb)
* posterior ethmoidal cells
* [maxillary sinus](https://radiopaedia.org/articles/maxillary-sinus?lang=gb)
* [sphenoid sinus](https://radiopaedia.org/articles/sphenoid-sinus?lang=gb)
* [ostiomeatal complex](https://radiopaedia.org/articles/ostiomeatal-complex?lang=gb)

Each side is graded separately. A combined score of up to 24 is possible. Of note, an aplastic (absent) frontal sinus receives a score of 0.

The method is intentionally simplistic, for the sake of minimising interobserver variability and expediting its application 2.​ Thus, it lends itself to application by non-radiologists and in clinical studies 1.​ Despite its simplicity, it correlates well with disease severity, extent of surgery, and complication rates, even independent of the extent of surgery 3.​