

Points

- Today, FESS has become a mainstay modality for treatment of sinusitis
- Prior to planning treatment, it is necessary to assess the PNS for its anatomy and variants as well as to look at the type of pathology
- PNS-HRCT, performed mainly in the coronal plane is the best technique for this
- 64-slice CT provides exceptional quality PNS-HRCT scans

PNS-HRCT

Dr. Devang Desai
Consultant Radiologist

High resolution CT (HRCT) of the paranasal sinuses (PNS) has a significant and necessary place in the pre-operative assessment of patients prior to endoscopic sinus surgery. It helps in establishing the anatomy of the sinuses (Figs. 1, 2) and its common variants (Fig. 3), as well as sinus and drainage passage pathology (Figs. 4-7).

Technique:

1. Prone position (for visualization of air-fluid levels in sinusitis)
2. No gantry tilt
3. Multi-slice spiral CT scan performed.
4. Volume of oblique coronal images obtained.
5. True coronal and axial images are then reconstructed at 1 or 2mm slice thickness with no interslice gap.

6. For additional information, sagittal images may also be obtained from the data

Anatomy and Normal Variants:

The anatomy (Figs. 1, 2) of the frontal, ethmoid, maxillary and sphenoid sinuses as well as the complex anatomy of the nasal cavity is very well demonstrated on CT. Anatomical variants such as concha bullosa (Fig. 3A), deviated nasal septum (Fig. 3A), pneumatized anterior clinoid process, Haller cells (Fig. 3B), etc. are well visualized.

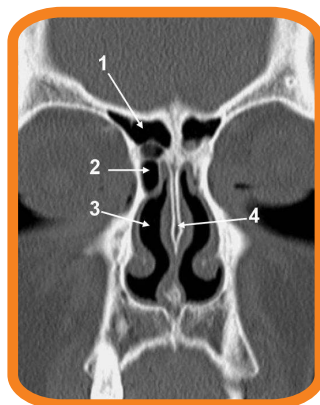


Fig. 1A



Fig. 1B

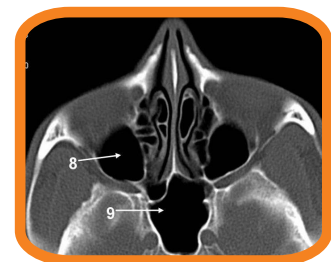


Fig. 1C

Fig. 1 (A-C): Normal anatomy of the paranasal sinuses. 1. Frontal sinus, 2. agger nasi, 3. nasal cavity, 4. nasal septum, 5. ethmoid sinuses, 6. middle turbinate, 7. inferior turbinate, 8. maxillary sinus, 9. sphenoid sinus.

The online version is up at <http://www.jankharia.com/innerspaces/current.htm>



WELLSPRING

RADIOLOGY • DIAGNOSTICS

Jankharia Imaging

Imaging with understanding

Pathology

CT is predominantly used to diagnose sinusitis (Figs. 4, 5) and sinonasal polyposis (Figs. 6, 7), prior to FESS.

Advantages of 64-slice CT over Conventional CT:

- Faster
- Multiplanar reconstruction capability
- Sharper images
- Lesser artifacts from dental amalgam
- 3D endoscopic sinus images maybe obtained

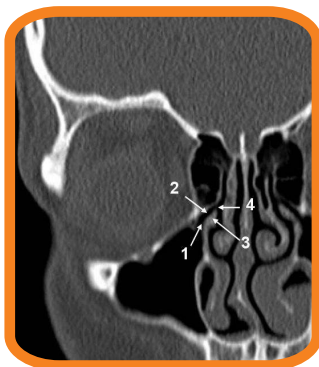


Fig. 2

Fig. 2: Normal anatomy of the osteomeatal unit. 1. maxillary sinus ostium, 2. infundibulum, 3. uncinate process, 4. hiatus semilunaris.



Fig. 3A

Fig. 3 (A, B): Variants. A) concha bullosa (asterisk), with deviated nasal septum (arrow). B) Haller cell (arrow).

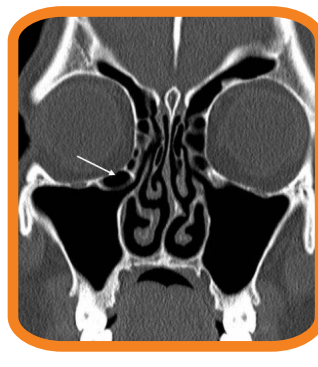


Fig. 3B

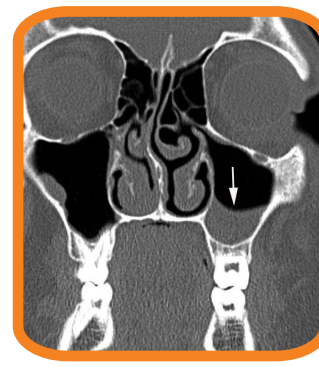


Fig. 4

Fig. 4: Coronal PNS-HRCT image shows air-fluid level in the left maxillary sinus (arrow).

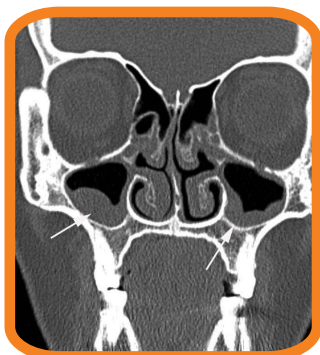


Fig. 5

Fig. 5: Coronal PNS-HRCT shows mucosal thickening in both maxillary sinuses (arrows).

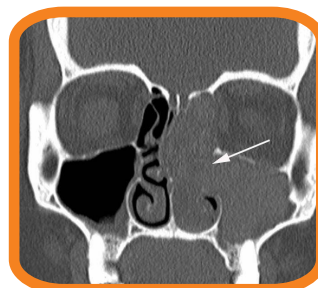


Fig. 6

Fig. 6: Coronal PNS-HRCT shows a large antrochoanal polyp on the left (arrows).

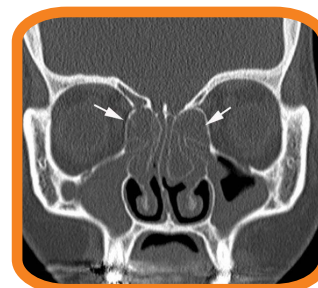


Fig. 7

Fig. 7: Coronal PNS-HRCT shows extensive sinonasal polyposis (arrows).

Designed by



Forthcoming Newsletters



- June 2007 - Sleep Apnea
- July 2007 - HRCT lung

Main Clinic

Bhaveshwar Vihar,
383, Sardar V. P. Road,
Mumbai - 400 004
Tel: 022-6617 3333.
Email: info@jankharia.com

Cardiac & Ultra fast CT scan

Nishat Business Center, Arya
Bhavan, 461, Sardar V. P. Road,
Mumbai - 400 004
Tel: 022-2389-3551
Fax: 022-2382-9595

Subscribe

Provide your name and
address at
subscribe@jankharia.com
Tel: 022-6617 3382
(Benny or Shamina)

Owner, Printer & Publisher: Dr. Bhavin Jankharia, Published at: Dr. Jankharia's Imaging Center, Bhaveshwar Vihar, 383, S.V.P. Road, Prarthana Samaj, Mumbai 400 004.
Printed at: India Printing House, First Floor, 42, G D Ambekar Marg, Opp. Wadala Post Office, Wadala, Mumbai 400 031

Accurate Results, All the Time



WELLSPRING

Jankharia Imaging

RADIOLOGY • DIAGNOSTICS

Subscription Coupon

This subscription is valid for the year of 2007.

Name : Dr. _____
Address : _____
Tel : _____ e-mail id : _____
Cheque details :- Bank: _____ Cheque no.: _____ Dated: _____ Amount: _____

Subscription: Rs. 100

Ex-Mumbai residents: Please send a D/D or add Rs. 50 for cheque clearance charges.

Please send this form duly filled along with the cheque in the name of "Dr. Jankharia's Imaging Centre" at Jankharia Imaging, Bhaveshwar Vihar, 383, Sardar V. P. Road, Mumbai - 400 004