

STATdx Radiology Diagnostic Decision Support Amirsys



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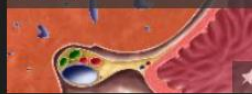
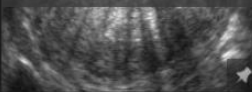
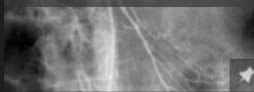
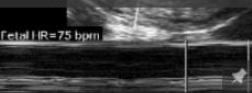
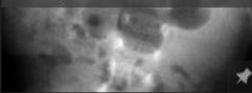
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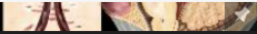
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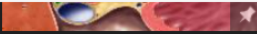
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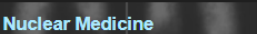
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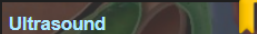
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Search for Images ☐ Brain Multiple Sclerosis

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**dx Multiple Sclerosis**
Brain | by Miral D. Jhaveri, MD, MBA
Idiopathic chronic inflammatory demyelinating disease of CNS Multiple perpendicular callosal T2 hyperintensities characteristic of mult
27 images : 22 references
Updated 10/8/20

**ddx Trigeminal Neuralgia**
Brain | by Nicholas A. Koontz, MD
Overall statistics Trigeminal neuralgia (tic douloureux) 80-90% are due to vascular compression of cisternal segment of CNV at root entry
90 images : 10 references
Updated 8/10/17

**dx Neuromyelitis Optica Spectrum Disorders**
Brain | by Miral D. Jhaveri, MD, MBA
Neuromyelitis optica spectrum disorders (NMOSDs) MOG antibody-associated disease (MOG-AAD) Autoimmune inflammatory demyelinating disease of
22 images : 25 references
Updated 7/28/20

**ddx Oculomotor, Trochlear, or Abducens Neuropathy**
Brain | by Nicholas A. Koontz, MD
Ca++ supply 6 extraocular muscles CNIII, IV, VI all have brainstem, cisternal, cavernous sinus (CS), & orbital components CNIII anatomy CNII
150 images : 4 references
Updated 8/8/17

**ddx Middle Cerebellar Peduncle Lesion(s)**
Brain | by Nancy J. Fischbein, MD
Middle cerebellar peduncles (MCPs), also known as brachia pontis, are dominant afferent pathway connecting cerebellum to pons Differential d
63 images : 3 references
Updated 8/8/17

Images Document

Multiple Sclerosis

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Preview of DDX without leaving your search result

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ddx Trigeminal Neuralgia

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63 images : 3 references

Updated 8/8/17



ddx Periventricular T2/FLAIR Hyperintense Lesions

Brain | by Miral D. Jhaveri, MD, MBA; Karen L. Salzman, MD; Troy A. Hutchins, MD

Periventricular T2/FLAIR hyperintense lesions often nonspecific with significant overlap among etiologies Questions helping narrow different

87 images : 2 references

Updated 8/10/17



ddx Multiple Brain Hyperintensities (T2/FLAIR), Rare but ...

Brain | by Gary M. Nesbit, MD; Marinos Kontzialis, MD

Lesion location is critical: Gray matter (GM) vs. white matter (WM), basal ganglia (BG) vs. periphery, or specific locations Enhancement hel

135 images

Updated 8/18/17



ddx Multiple Brain Hyperintensities (T2/FLAIR), Common

Brain | by Gary M. Nesbit, MD; Marinos Kontzialis, MD

174 images : 3 references

Updated 8/16/17



Images

Document



Trigeminal Neuralgia

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ESSENTIAL INFORMATION

Key Differential Diagnosis Issues

- Overall statistics
 - 80-90% are due to vascular compression of cisternal segment of CNV at root entry zone
 - ~ 90% arterial vascular loop
 - Superior cerebellar artery

Same preview but now with the images

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Multiple Sclerosis



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ddx Trigeminal Neuralgia

Brain | by Nicholas A. Koontz, MD

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135 images

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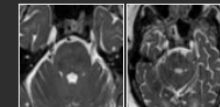


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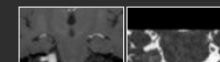
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Selected Images (14)

Vascular Loop Syndrome, CNV



Schwannoma, Vestibular, CPA-IAC



Overview of the DDx (separate preview possible for Dx)

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Brain



Multiple Sclerosis



Brain

Differential Diagnosis

Cranial Nerves

Clinically Based Differential

Trigeminal Neuralgia

STATdx Trigeminal Neuralgia

Nicholas A. Koontz, MD



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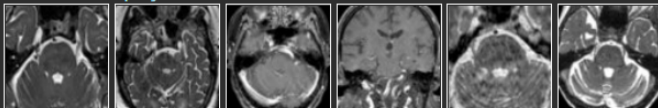
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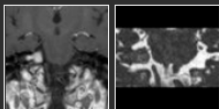
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Vascular Loop Syndrome, CNV

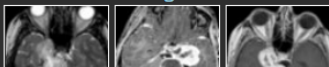


LESS COMMON

Schwannoma, Vestibular, CPA-IAC



Schwannoma, Trigeminal, Skull Base



ESSENTIAL INFORMATION

Key Differential Diagnosis Issues

- Overall statistics
 - 80-90% are due to vascular compression of cisternal segment of CNV at root entry zone
 - ~ 90% arterial vascular loop
 - Superior cerebellar artery (75-88%)
 - Anterior inferior cerebellar artery (10-25%)
 - ~ 10% venous vascular loop
 - ~ 40% multivessel contact
 - All other causes listed (< 10%)
- Trigeminal neuralgia (*tic douloureux*)
 - Presentation: Most commonly > 50 years old, unilateral paroxysmal facial pain
 - Principal symptom: Unilateral stabbing facial pain typically radiating in maxillary (CNV2) or mandibular (CNV3) areas
 - Pathophysiology: Irritation of root entry zone of CNV
 - Treatments options
 - Medical: Carbamazepine
 - Radiation treatment: Stereotactic radiosurgery
 - Surgical treatment: Microvascular decompression

Selection of 3 different Dx's for comparison (green)

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Brain



Multiple Sclerosis



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ddx Trigeminal Neuralgia

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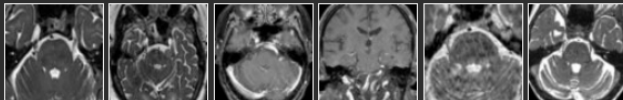
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ddx

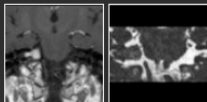
COMMON

Vascular Loop Syndrome, CNV

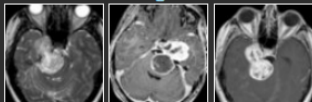


LESS COMMON

Schwannoma, Vestibular, CPA-IAC



Schwannoma, Trigeminal, Skull Base



Meningioma, CPA-IAC



ESSENTIAL INFORMATION

Key Differential Diagnosis Issues

- Overall statistics
 - 80-90% are due to vascular compression of cisternal segment of CNV at root entry zone
 - ~ 90% arterial vascular loop
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 - Principal symptom: Unilateral stabbing facial pain typically radiating in maxillary (CNV2) or mandibular (CNV3) areas
 - Pathophysiology: Irritation of root entry zone of CNV
 - Treatments options
 - Medical: Carbamazepine
 - Radiation treatment: Stereotactic radiosurgery
 - Surgical treatment: Microvascular decompression
 - Best imaging study
 - MR (including volumetric, heavily T2WI & T1WI C+ sequences) with TOF MRA
 - Focused trigeminal neuralgia MR protocol must evaluate from CNV origin nuclei to end organs
 - Pons → prepontine cistern → trigeminal cistern → cavernous sinus → face to level of inferior

Compare mode (images, but click text, see next screen)

STATdx® Compare Diagnoses (3)

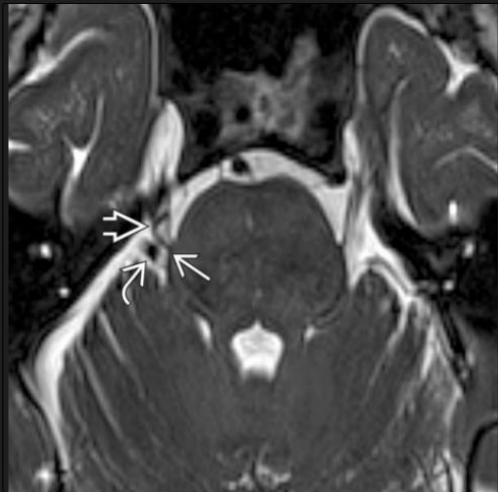
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Trigeminal Neuralgia
Vascular Loop Syndrome, CNV

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IMAGES

TEXT



Axial T2 SPACE MR shows neurovascular compression of the right CNV at the root entry zone (REZ) → by a tortuous superior cerebellar artery loop → and a dilated vein →, resulting in trigeminal neuralgia.

Images From "Trigeminal Neuralgia"

6

Trigeminal Neuralgia
Schwannoma, Trigeminal, Skull Base

DISMISS

IMAGES

TEXT



Axial T2 MR shows a right-sided trigeminal schwannoma → that is characteristically dumbbell-shaped, involvement of the prepontine cistern → and trigeminal cave →, and profound mass effect upon the pons →.

Images From "Trigeminal Neuralgia"

3

Trigeminal Neuralgia
Meningioma, CPA-IAC

DISMISS

IMAGES

TEXT



Axial T1 C+ FS MR demonstrates avid enhancement of a CPA-IAC meningioma → contributing to right-sided trigeminal neuralgia. Note characteristic enhancing dural tails →, which helps differentiate meningioma from schwannoma in this case.

Images From "Trigeminal Neuralgia"

4

Compare by text / facts and dismiss or select Dx

STATdx® Compare Diagnoses (3)

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Trigeminal Neuralgia Vascular Loop Syndrome, CNV	DISMISS	Trigeminal Neuralgia Schwannoma, Trigeminal, Skull Base	DISMISS	Trigeminal Neuralgia Meningioma, CPA-IAC	DISMISS
IMAGES	TEXT	IMAGES	TEXT	IMAGES	TEXT
ESSENTIAL INFORMATION Helpful Clues for Diagnosis - Key facts: Aberrant or ectatic vessels in CPA cistern - High-resolution MR-MRA identifies compressive artery routinely - Most common cause of trigeminal neuralgia - Imaging: Asymmetric looping artery impinges on CNV root entry zone - Superior cerebellar artery > anterior inferior cerebellar artery > posterior inferior cerebellar artery > vertebral artery		KEY FACTS Terminology - Synonyms: Giant trigeminal schwannoma (TS), "dumbbell" TS Imaging - Tubular mass along course of trigeminal nerve - Can involve preganglionic (cisternal) segment, Meckel cave, CNV1 (superior orbital fissure), CNV2 (foramen rotundum), CNV3 (foramen ovale) - May extend extracranially via CNV exit foramina - Size: Small to giant - Morphology: Dumbbell shape secondary to constriction at porus trigeminus or skull base foramen - CT: Soft tissue mass with smooth, bony erosion of central skull base, ± foraminal widening - MR: T1 iso- to hypointense, T2 hyperintense, variable enhancement - Cyst formation is common Top Differential Diagnoses - Meningioma - CNV3 perineural tumor - CNV2 perineural tumor - Non-Hodgkin lymphoma Pathology - Benign nerve sheath tumor 2nd most common intracranial schwannoma next to vestibular schwannoma - May occur in setting of neurofibromatosis Diagnostic Checklist - Dumbbell-shaped or tubular mass along course of trigeminal nerve is characteristic - Enhanced MR best to identify intracranial and extracranial extent of lesion		ESSENTIAL INFORMATION Helpful Clues for Diagnosis - Key facts: Arises from arachnoid cap cells - Imaging - Dural-based sessile mass - MR: Enhancing mass with dural tail(s) - CT: Underlying bony hyperostosis or permeative sclerosis possible KEY FACTS Terminology - Definition: Benign, unencapsulated neoplasm arising from meningotheial arachnoid cells of cerebellopontine angle (CPA)-internal auditory canal (IAC) dura Imaging 10% occur in posterior fossa - When in CPA, asymmetric to IAC porus acusticus - NECT: 25% calcified; 2 types seen - Homogeneous, sand-like (psammomatous) - Focal sunburst, globular, or rim pattern - Bone CT: Hyperostotic or permeative-sclerotic bone changes possible (en plaque type) - Bone CT indicated if bone invasion suspected on MR - T2WI MR: Pial blood vessels seen as surface flow voids between tumor and brain - High-signal crescent from CSF ("CSF cleft") - T1WI C+ MR: Enhancing dural-based mass with dural tails centered along posterior petrous wall - When IAC tail present, usually dural reaction, not tumor Top Differential Diagnoses - Vestibular schwannoma - Epidural cyst, CPA-IAC, dural metastases, CPA-IAC	

Dx of MS, with table of content (middle of the screen)

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Search for Images ☐ Brain ☒ Multiple Sclerosis

Brain ☐ Diagnosis ☐ Pathology-Based Diagnosis ☐ Infectious, Inflammatory, ... ☐ Inflammatory and Demyelination ☐ Multiple Sclerosis ☐

dx Multiple Sclerosis
Miral D. Jhaveri, MD, MBA

Is this information what you were looking for? ☐ Yes ☐ No

KEY FACTS NEXT

Terminology

- Idiopathic chronic inflammatory demyelinating disease of CNS

Imaging

- Multiple perpendicular callosal septal T2 hyperintensities characteristic of multiple sclerosis (MS)
 - Perivenular extension: "Dawson fingers"
- Bilateral, asymmetric linear/ovoid FLAIR hyperintensities
 - Periventricular/perivenular, callosal septal interface
 - May also commonly involve brachium pontis, brainstem, spinal cord, cortex/juxtacortical
- SWI central vein sign
- Transient enhancement during active demyelination
- Rare: Large tumefactive enhancing rings
- Advanced imaging techniques show disease in normal-appearing white matter

Top Differential Diagnoses

- Multifocal T2/FLAIR hyperintensities**
 - Arteriolosclerosis, ADEM, NMOSD, vasculitis, Susac syndrome, Lyme disease
- Mass-like ("tumefactive") lesion(s)**
- Neoplasms, PML/PML-IRIS

Pathology

- Major clinical subtypes from least to most severe
 - Radiologically isolated syndrome, clinically isolated syndrome, relapsing-remitting, relapsing-remitting

Selected Images 10

View Full Screen Image
Sagittal graphic illustrates multiple sclerosis (MS) plaques involving the corpus callosum, pons, and spinal cord. Note the

Table of Contents:

- KEY FACTS
- TERMINOLOGY
- IMAGING
- DIFFERENTIAL DIAGNOSIS
- PATHOLOGY
- CLINICAL ISSUES
- DIAGNOSTIC CHECKLIST
- SELECTED REFERENCES

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DIAGNOSTIC CHECKLIST

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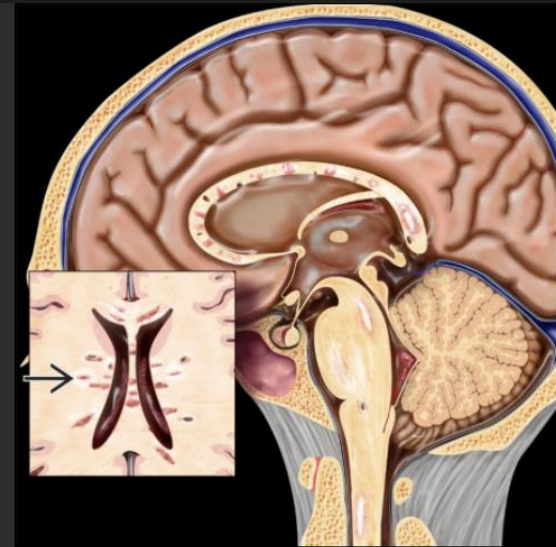
Image Interpretation Pearls

- 95% with clinically definite MS have positive MR

SELECTED REFERENCES

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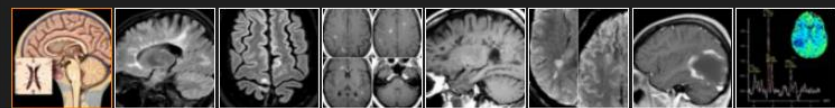
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Sagittal graphic illustrates multiple sclerosis (MS) plaques involving the corpus callosum, pons, and spinal cord. Note the characteristic perpendicular orientation of the lesions at the callosal interface along penetrating venules.

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10



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Adv Neurol. 2006;98:125-46.

The role of MRI in the diagnosis of multiple sclerosis.

Traboulsee AL¹, LDK.

Author information

Abstract

There is no single test that is diagnostic of MS, including MRI. The lesions detected with MRI are pathologically nonspecific. The principles of MS diagnosis are based on showing dissemination of white matter lesions in space and time. MRI is the most sensitive method for revealing asymptomatic dissemination of lesions in space and time. The pattern and evolution of MRI lesions, in the appropriate clinical setting, has made MRI abnormalities invaluable criteria for the early diagnosis of MS. The first important role for MRI in the diagnosis of MS allows for an early diagnosis of MS for CIS patients using the IP diagnostic criteria, including MRI for dissemination in space (DIS) and time (DIT). The sensitivity of diagnosing MS within the first year after a single attack is 94%, with a specificity of 83%. The MRI evidence required to support the diagnosis varies, depending on the strength of the clinical findings. Allowing a new MRI lesion to substitute for a clinical attack doubles the number of CIS patients who can be diagnosed as having MS within 1 year of symptom onset. Increasing the sensitivity of the test with more lenient criteria, as recommended by the AAN subcommittee, can result in decreased specificity. The second important role for MRI in the diagnostic work-up of suspected MS patients is to rule out alternative diagnoses obvious on MRI, such as spinal stenosis and most brain tumors. Characteristic lesions that favor MS include Dawson Fingers, ovoid lesions, corpus callosum lesions, and asymptomatic spinal cord lesions. However, other white matter diseases can have similar appearances on MRI. Persistent gadolinium enhancement greater than three months, lesions with mass effect, and meningeal enhancement suggest other disorders. A standardized MRI protocol for brain and spinal cord is crucial for comparing across studies or between centers. T2W MRI cannot distinguish between acute and chronic lesions. Gadolinium provides useful information about new lesion activity and is helpful in ruling out alternative diagnoses such as neoplasm, vascular malformations, and leptomeningeal disease. A single gadolinium-enhanced MRI can potentially provide evidence for dissemination in space and time. Spinal cord imaging is equally valuable to rule out spinal stenosis or tumor, and for detecting asymptomatic lesions when brain imaging is nondiagnostic in patients suspected of having MS. Precise criteria may be too suggestive that MS can be diagnosed by MRI and a negative MRI at the time of CIS does not rule out MS. MRI evidence plays a supportive role in what is ultimately a clinical diagnosis of MS, in the appropriate clinical situation, and always at the exclusion of alternative diagnoses.

PMID: 16400831 [PubMed - indexed for MEDLINE]

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Canadian Expert Panel Recommendations for MRI Use in MS Diagnoses [Can J Neurol Sci. 2015]

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1

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CASE
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Demographics
 42 old

Description
 Typical MR case of severe multiple sclerosis. Axial T2 MR images (#1-3) demonstrate very hypointense bilateral basal ganglia (arrows), atrophy (evidenced by ventricular prominence), and confluent periventricular/subcortical hyperintense plaques (curved arrows) in keeping with severe multiple sclerosis.

Images

Author(s)
 Author: Sheri L. Harder, MD, FRCPC
 Contributor(s): Anne G. Osborn, MD, FACR

Enlarging Images with image captions and PPT

- Sex
 - Adults: M:F = 1:1.77; adolescents
- Ethnicity
 - All groups but most common in v
- Epidemiology
 - ~ 2.5 million people worldwide
 - Most often occurs in temperate

Natural History & Prognosis

- 1/3 have initial episode followed by
- Majority: Protracted course with pr
- Late: Severe disability, cognitive im

Treatment

- Immunomodulators &/or immunos

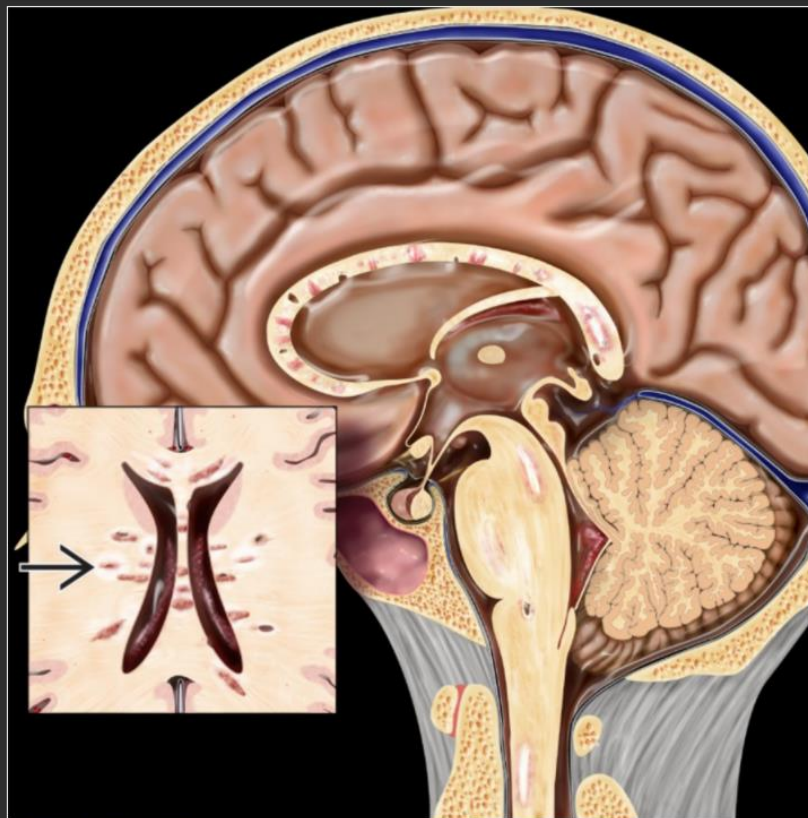
DIAGNOSTIC CHECKLIST

Image Interpretation Pearls

- 95% with clinically definite MS have

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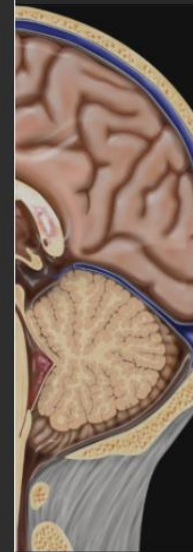


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Sagittal graphic illustrates multiple sclerosis (MS) plaques involving the corpus callosum, pons, and spinal cord. Note the characteristic perpendicular orientation of the lesions $\Rightarrow$ at the callososeptal interface along penetrating venules.

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involving the corpus
perpendicular orientation
penetrating venules.

10

Exported to PowerPoint within two clicks

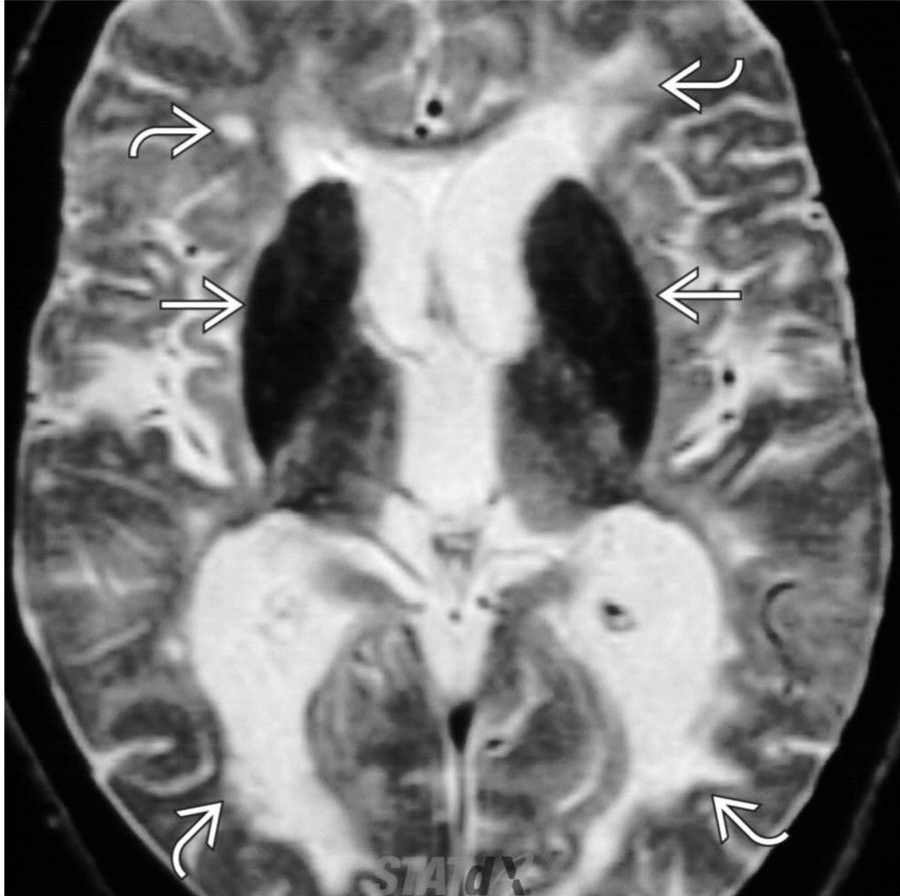
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Slides Outline

1



Slide 1 of 1 "Office Theme" 134%

The image displays a Microsoft PowerPoint window in Protected View. The title bar reads "image (11).pptx [Protected View] - Microsoft PowerPoint". The ribbon includes tabs for File, Home, Insert, Design, Transitions, Animations, Slide Show, Review, and View. A yellow warning bar at the top states "Protected View This file originated from an Internet location and might be unsafe. Click for more details." with an "Enable Editing" button. On the left, the "Slides" pane shows a single slide thumbnail labeled "1" with a small version of the brain MRI image. The main slide area displays a large axial MRI scan of the brain. The scan shows bilateral hyperintense lesions in the white matter, indicated by white arrows. The lesions are located in the periventricular and subcortical regions. The ventricles are visible in the center, and the cerebellum is at the bottom. The text "STAdX" is visible at the bottom of the MRI image. The status bar at the bottom indicates "Slide 1 of 1", "Office Theme", and a zoom level of "134%".

Browsing: Diagnosis / DDx / Anatomy and filter by type

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▶ Supratentorial Brain Anatomy	30 Anatomy
▶ Brain Network Anatomy	8 Anatomy
▶ Infratentorial Brain	7 Anatomy
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Click the "Preview" icon
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The screenshot displays the STATdx website interface. At the top, the logo "STATdx®" is in orange. Below it, there is a search bar with the placeholder text "What are you looking for?". To the left of the search bar, there is a toggle switch labeled "Search for Images" and a button labeled "Filter by Category" with a blue chevron icon. Below the search bar, there is a section titled "Primary Categories" with a count of "6763 topics" and a small icon of a star with a plus sign. The categories are displayed in a grid of six tiles, each with a title, a topic count, and a representative image. Each tile also has a yellow bookmark icon in the top right corner and a small star icon in the bottom right corner.

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Breast	257 topics
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Head and Neck	686 topics
Gynecology	153 topics

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Multiple Sclerosis



TNM Classification of Malignant Tumors (TNM)

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Soft Tissue Sarcoma of Extremities and Trunk

Musculoskeletal | by Julia R. Crim, MD

Sarcomas of viscera, retroperitoneum, and head and neck are not included in this chapter Desmoid tumor and Kaposi sarcoma do not have Americ

91 images : 21 references

Updated 9/12/19



IASLC Lymph Node Map

Chest | by Brett W. Carter, MD, CPPS

Regional lymph node map using specific designations to facilitate reliable assessment of lymph node metastasis Defines 14 lymph node station

20 images : 6 references

Updated 8/25/15



Lung Carcinoma

Chest | by Leif Jensen, MD

American Joint Committee on Cancer (AJCC) staging system applies to carcinomas of lung This classification does not apply to primary lung

60 images : 16 references

Updated 10/2/19



HPV-Related Oropharyngeal Squamous Cell Carcino...

23 images : 47 references

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Images

Document



Soft Tissue Sarcoma of Extremities and Trunk

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Stage I



Biopsy procedure with preview on the right

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Biopsy Procedures



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Biopsy Procedures

Interventional Radiology | by Jennifer R. Buckley, MD; Brandt C. Wible, MD

Nonfocal (random) biopsy: Biopsy of organ parenchyma to assess diffuse disease Focal (targeted) biopsy: Biopsy of discrete lesion Indication

49 images : 16 references

Updated 7/9/21



Ablation Procedures

Chest | by Sonia L. Betancourt-Cuellar, MD

Thermal ablation : Treatment of primary or metastatic lung malignancies in medically inoperable patients Cryoablation (CA) : Use of compress

13 images : 6 references

Updated 10/21/21



Thoracic Biopsy

Interventional Radiology | by Ashraf Thabet, MD; Brandt C. Wible, MD

Indications Thoracic mass, nodule, or consolidation Establish primary malignancy vs. benign disease Confirm metastasis, stage malignancy Obt

28 images : 12 references

Updated 5/15/17



Transjugular Biopsy

Interventional Radiology | by Jennifer R. Buckley, MD; Nathan Saucier, MD

Transvenous biopsy (TVB) : Random (nonfocal) biopsy of liver or kidney via transvenous introduction of cannula/biopsy needle Transvenous hep

10 images : 13 references

Updated 6/8/17



MR-Guided Vacuum-Assisted Biopsy

Breast | by Wendie A. Berg, MD, PhD, FACR, FSBI

Gland has average high solid-to-liquid ratio (2-3:1) Dedicated breast coil, MR-compatible equipment, Relative anatomic distortion, Lesion of 6 mm

13 images : 30 references

Updated 4/29/19


[Images](#) [Document](#)


Biopsy Procedures

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KEY FACTS

Terminology

- Nonfocal (random) biopsy: Biopsy of organ parenchyma to assess diffuse disease
- Focal (targeted) biopsy: Biopsy of discrete lesion

Overview with same Table of Content / Structure

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Biopsy Procedures

Jennifer R. Buckley, MD; Brandt C. Wible, MD

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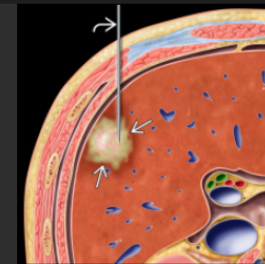
- Nonfocal (random) biopsy: Biopsy of organ parenchyma to assess diffuse disease
- Focal (targeted) biopsy: Biopsy of discrete lesion

Preprocedure

- Indications
 - Diagnose, stage, &/or grade diffuse parenchymal disease
 - Evaluate lesion of unknown/indeterminant etiology
 - Pathology, microbiology, cytology
 - Grading &/or staging of known malignancy

Procedure

- Shortest route that avoids intervening structures
- Fine-needle aspiration &/or core biopsy
 - Increased diagnostic yield if both obtained
- Coaxial-needle technique minimizes number of passes through overlying tissues
- **US guidance**
 - Doppler imaging to assess for intervening vessels
 - Single-needle or coaxial-needle technique
- **CT guidance**
 - Perform preliminary scan with radiopaque grid

[KEY FACTS](#)
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Percutaneous Focal Hepatic Biopsy

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Graphic demonstrates percutaneous introduction of a biopsy needle → into a hepatic lesion → This is an example of a

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46

Percutaneous Focal Hepatic Biopsy



Images of the procedure itself

Biopsy Procedures

Jennifer R. Buckley, MD; Brandt C. Wible, MD

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Terminology

- Nonfocal (random) biopsy: Biopsy of organ parenchyma to assess diffuse disease
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 - Doppler imaging to assess for intervening vessels
 - Single-needle or coaxial-needle technique
- **CT guidance**
 - Perform preliminary scan with radiopaque grid
 - Usually coaxial-needle technique
- Discuss specimen preparation with cytology/pathology department prior to biopsy
- Biopsy of intraparenchymal lesion
 - Traverse intervening normal parenchyma to reduce hemorrhage risk
- Liver biopsy: Preprocedure paracentesis if ascites present
- Renal biopsy: Aim away from hilum into cortex

Post Procedure

- Monitor for complications
 - Consider CT; low threshold appropriate to reimaging
- Overall risk of significant hemorrhage < 1%
- Review and communicate biopsy results to primary care/referring physician and patient (MIPS Measure)



CT-Guided Focal Renal Biopsy. Skin Nick

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A skin nick is made using a #11 scalpel to facilitate insertion of a 17-gauge introducer needle.

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Bone Age Calculator

Bone Age Calculator

Background Information

Assessment of a patient's bone age is frequently performed in children and adolescents in order to evaluate patient growth and to diagnose and manage certain pediatric syndromes or endocrine disorders. Advanced or delayed skeletal maturation can be determined using radiographic imaging of the hand and correlated with clinical course. This calculator provides a means of comparing the chronological age of a child to a standard atlas of skeletal development. Standardized values were compiled from studies compiled by Greulich and Pyle in which they assessed gender-specific skeletal age. These studies compiled mean skeletal ages for successive chronological ages by using between 68 and 201 subjects per age group.

Clues for assessment of hand-films:

- Infancy or early childhood: presence or absence of certain carpal/epiphyseal ossification centers -Puberty to late adolescence: degree of fusion of epiphyses with their shafts
- Assess bones in a regular sequence: distal ends or radius/ulna, carpals, metacarpals, phalanges
- Carpals should also be studied in regular order: capitate, hamate, triquetral, lunate, scaphoid, trapezium, trapezoid, pisiform

Calculating bone age:

Step 1: Choose the gender of the patient and input the chronological age in months.

Step 2: Scroll through a radiographic filmstrip of gender-specific images to find the closest match to your patient's radiograph.

Step 3: The bone age and standard deviation of your study will be calculated and graphed on a skeletal age chart using standard deviation.

Step 4: A blank standardized chart may be download (pdf) and placed in a patient's file to chronicle the progression during subsequent visits.

[Male Chart](#) [Female Chart](#)

Start by choosing the gender and inputting the chronological age of the patient in months.

Male: ☐ Female: ☒

Chronological age: years months

[Continue to next step...](#)

References



Image that is most like your patient's study: 14 years

Patient Age: 168 months (14 years, 0 months)

Gender: Female

Bone age: 168 months

Standard deviation: 0

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