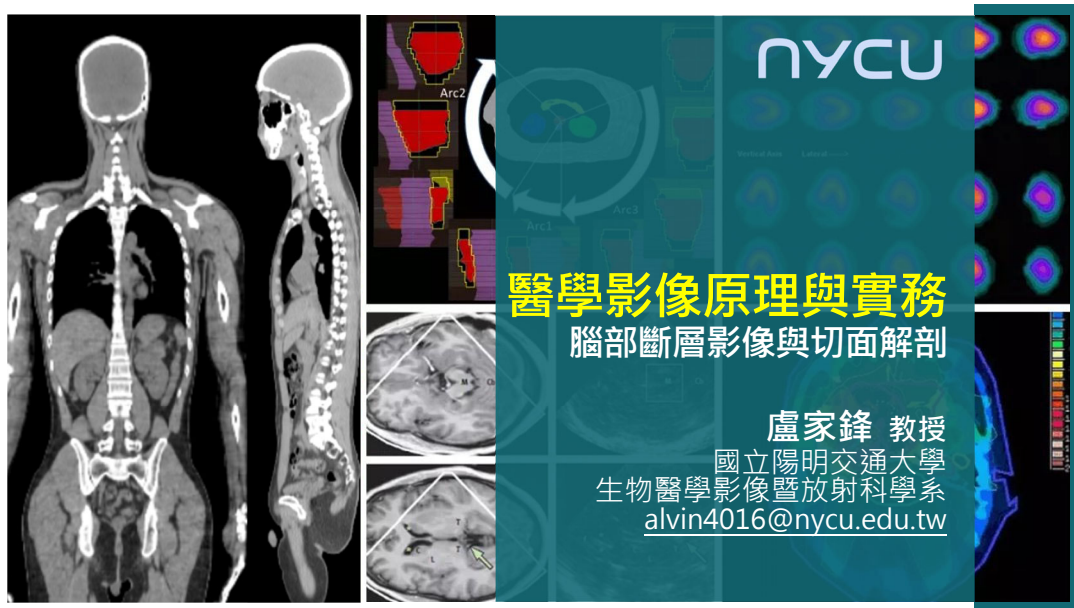




nycu

醫學影像原理與實務
腦部斷層影像與切面解剖

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本週學習目標

1. 認識影像切面概念與DICOM格式
切面方向與影像資訊
2. 了解DICOM瀏覽器使用方式與影像呈現
影像序列檢視方式、對比調整與多影像比較
3. 認識腦部切面影像解剖
比較腦部三維與切面解剖、辨識重要解剖位置與型態

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Install WEASIS DICOM Viewer



v4.5.1 published on Sep 18, 2024

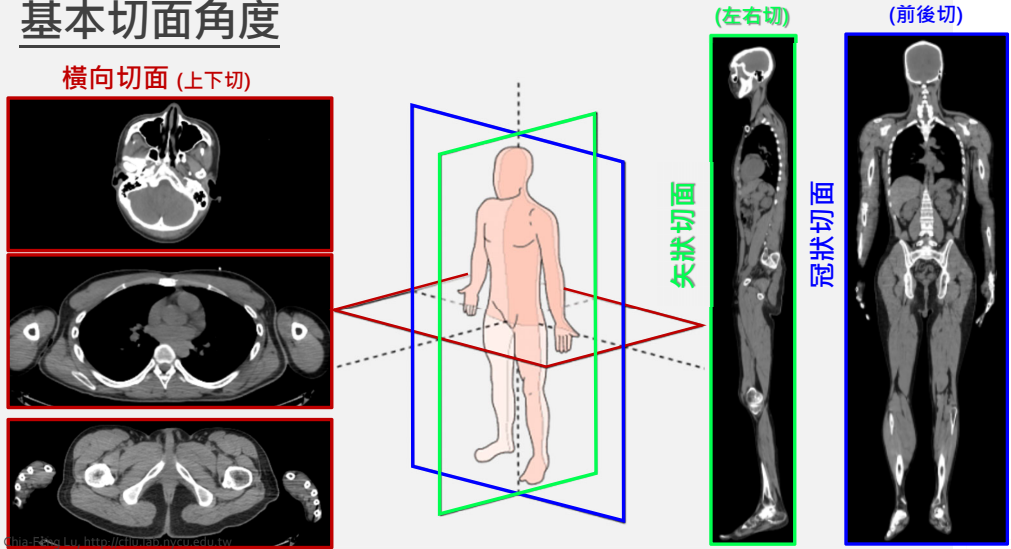
DEB	Linux	x86-64	49.9 MB	weasis_4.5.1-1_amd64.deb
DEB	Linux	arm-64	47.2 MB	weasis_4.5.1-1_arm64.deb
DEB	Linux	arm-32	50.5 MB	weasis_4.5.1-1_armhf.deb
MSI	Windows	x86-64	47.7 MB	Weasis-4.5.1-x86-64.msi
PKG	macOS	arm-64	57.7 MB	Weasis-4.5.1-aarch64.pkg
PKG	macOS	x86-64	60.1 MB	Weasis-4.5.1-x86-64.pkg
RPM	Linux	x86-64	63.3 MB	weasis-4.5.1-1.x86_64.rpm

• <https://weasis.org/en/getting-started/download-dicom-viewer/>

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基本切面角度



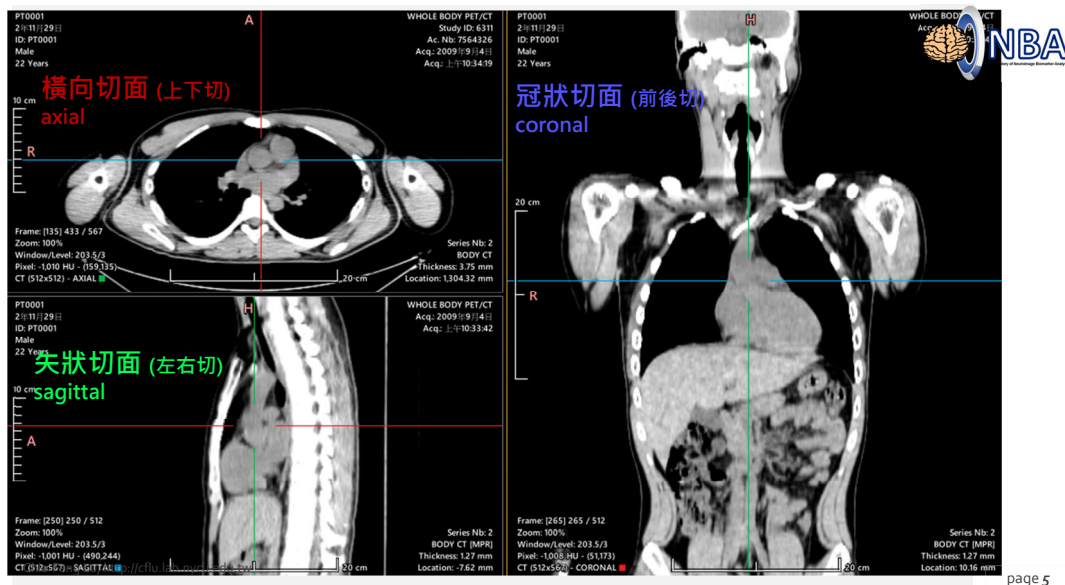
橫向切面 (上下切)

矢狀切面 (左右切)

冠狀切面 (前後切)

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Digital Imaging and COmmunication in Medicine



NEMA, Suite 1752
1300 North 17th Street
Rosslyn, VA 22209
Ph: (703) 841-3285
<http://dicom.nema.org>

- ACR & NEMA formed a committee in 1983
 - American College of Radiology
 - National Electrical Manufacturers Association

“The Common Language of Medical Equipment”

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DICOM File Format

- **Header** and **image data** are stored in the same file (so the important info can't be lost)
- Stores hundreds of pieces of information about the patient, machine, and data acquisition



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Important Tags in DICOM

- (0008 0020) Study Date
- (0010 0010) Patient's Name
- (0010 0020) PatientID
- (0010 0040) Patient Sex
- (0010 1010) Patient Age
- (0020 0011) Series Number
- (0008 103E) Series Description
- (0020 1041) Slice Location
- (0020 1002) Images in Acquisition
- (0008 0090) Referring Physician's Name
- (0008 1010) Station Name
- Image "Shape"
 - (0028 0010) Rows
 - (0028 0011) Columns
 - (0028 0030) Pixel Spacing
 - (0018 0050) Slice Thickness
 - (0018 0088) Spacing Between Slices
 - (0020 1041) Slice Location

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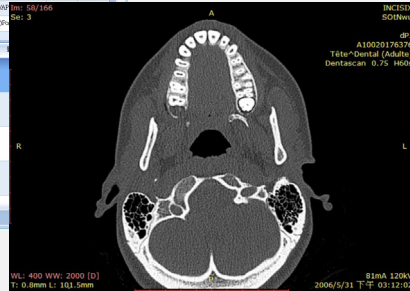
DICOM Usage



Picture Archiving and Communication System (PACS)

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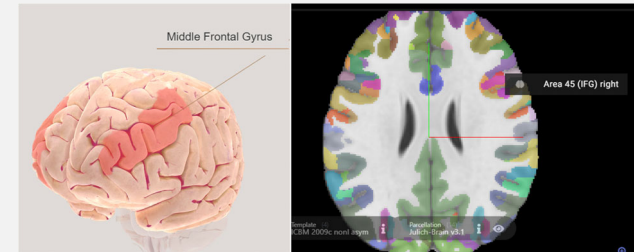
- Data query
- Image Information
- Communication



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Interactive Brain Atlas

- BrainFacts.org
<https://www.brainfacts.org/3d-brain#intro=false&focus=Brain>
- Human Brain Atlas
<https://www.ebrains.eu/brain-atlases/reference-atlases/human-brain/>
<https://atlases.ebrains.eu/viewer/>



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