

The background features a dark grey to black gradient with several overlapping circular and semi-circular patterns. These include solid lines, dashed lines, and concentric circles. A prominent feature is a large circular scale on the left side, with numerical markings from 140 to 260 in increments of 10. The text is centered horizontally and vertically on the slide.

AI EXPERIENCE IN RADIOLOGY AT UOFL

SOHAIL CONTRACTOR, MD
CHAIR, RADIOLOGY, SOM

AI OPPORTUNITIES

The background features several faint, light-colored circular patterns and arrows. One prominent pattern in the upper right quadrant consists of concentric circles with radial tick marks, resembling a gauge or a circular scale. Other similar patterns are scattered in the lower left and bottom right areas, all rendered in a subtle, monochromatic style against the dark background.

- Span across multiple areas
- Admin/ student/ faculty/ operations/ legal
- Multimodal AI

AI OPPORTUNITIES

The background features several faint, light-colored circular patterns and arrows. One prominent pattern in the upper right is a large circle with concentric inner circles and a dashed outer ring, with numerical markings (100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210) along its circumference. Other similar but smaller patterns are scattered in the lower right and bottom left corners.

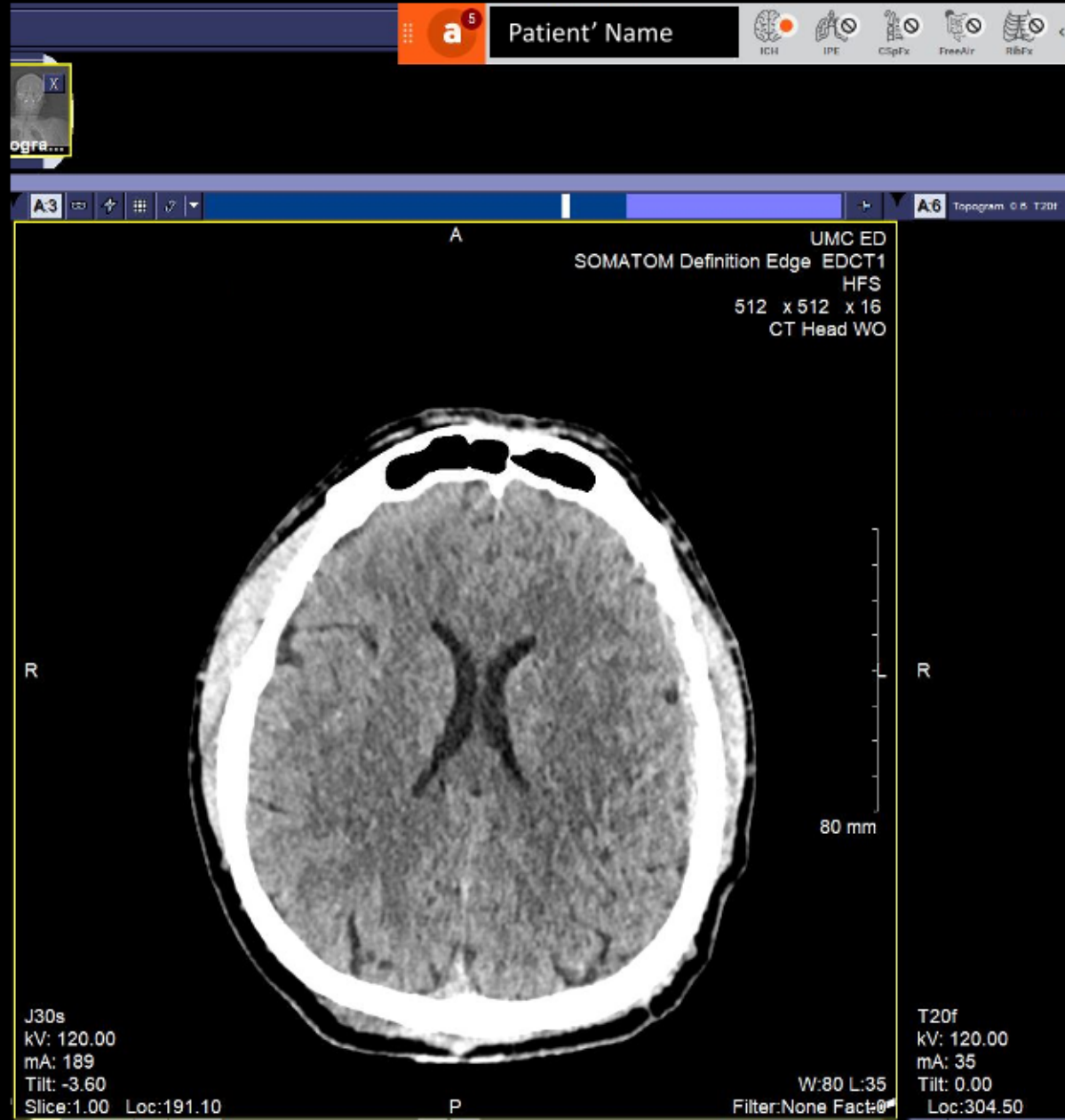
- *Generative AI- LLMs, Chat-GPT*
- *Image based*

IMAGE BASED

- Identify abnormalities
- Classify abnormalities
- Predict outcomes
- Coordinate care



SO, WHAT DOES IT LOOK LIKE AIDOC?



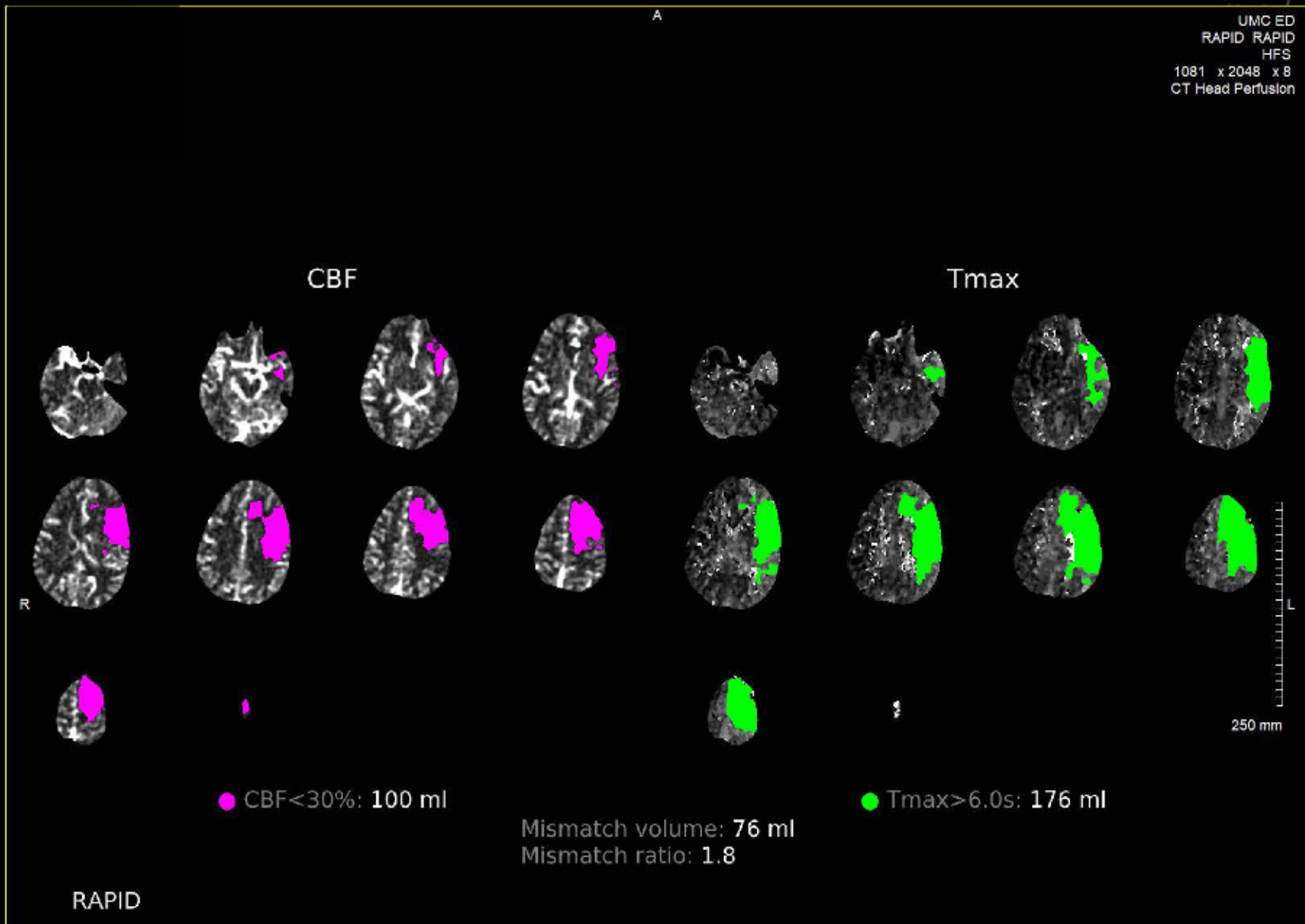
SO, WHAT DOES IT LOOK LIKE - AIDOC?

The screenshot displays the AIDOC software interface for a CT scan of a head. The main window shows an axial slice of the brain with a scale bar of 80 mm. A processing information window is open, showing a heatmap of the scan and a list of findings:

- 1. Areas that left cerebral subdural hematomas measuring up to 6 mm in maximal thickness. No midline shift.
- 2. 5 mm nodular hyperdense lesion within the left parietal lobe, concerning for a hyperdense intraparenchymal hematoma in the setting of

Technical details for the scan include: UMC ED, CT Head, WO, CT_Head_ST_thin, Series: 5. The processing information window also shows: 30s, V: 120.00, A: 109, Fil: -3.60, Slice: 1.00, Loc: 192.10, W: 80 L: 36, Filter: None Fac54. The bottom of the interface shows two additional views: a coronal slice (R) and a sagittal slice (L), both with a 120 mm scale bar. Technical details for these views include: 0.5x0.5x1.0 mm, W: 80 L: 35, RA: 124.5 / 240.0 mm, KV: 120.00, mA: Variable, Pos: HFS.

SO, WHAT DOES IT LOOK LIKE – RAPIDAI CTP?



AI WORKLIST INTEGRATION

The screenshot shows a software interface titled "Change Healthcare Workflow Intelligence". The main window displays a list of tasks under the heading "ER PM READS ALL SITES". The tasks are sorted by priority and include columns for "TA...", "STUD...", "ASSIGNED TO", "PATIENT NAME", "W...", "PATIENT ID", "EXAM DESCRIPTION", and "CLINICAL INDICATION". A sidebar on the left lists "PUBLIC VIEWS" such as "U of L Lists Combined", "Weekends/Holiday List", "General Lists", "Cardiac Lists", "NM Lists", "Body Lists", "MSK Lists", "Neuro Lists", and "ER Lists". The "ER Lists" section is expanded, showing "ER PM Reads All SL..." with 13 items.

TA...	TA...	STUD...	ASSIGNED TO	PATIENT NAME	W...	PATIENT ID	EXAM DESCRIPTION	CLINICAL INDICATION
12		REVIEWED		OCBR			CT Head WO	rm9 fall down stairs
12		REVIEWED		OCBR			CT Head WO	rm9 arse
14		REVIEWED		OCBR			MRI Spine Cervical WO	Other (Please Specify)
14		REVIEWED		OCBR			CT Spine Cervical WO	Trauma: trampled by
14		REVIEWED		OCBR			CT Spine Thoracic WO	Trauma: trampled by
14		REVIEWED		OCBR			CT Spine Lumbar WO	Trauma: trampled by
14		REVIEWED		OCBR			CTA Abdomen Pelvis	reported pelvic fx and
14		REVIEWED		OCBR			CTA CHEST	reported pelvic fx and
14		REVIEWED		MCS			CT Facial Bones W	chronic R nasal conge
14		REVIEWED		MCS			CT Spine Cervical WO	Other (Please Specify)
14		REVIEWED		MCSW			CT Abdomen Pelvis W	Abdominal Pain
17		REVIEWED		MEH			CR Chest 1 Vw Portable	Chest Pain
17		REVIEWED		JH			CR Chest 1 Vw Portable	Chest Pain

This close-up view shows a task list with a tooltip for a specific item. The tooltip indicates a "Priority: 1" and an "Anomaly: Intracranial hemorrhage: AID". The task list includes columns for "TA...", "STUD...", and "ASSIGNED TO". The task status is "REVIEWED".

TA...	TA...	STUD...	ASSIGNED TO
1*			
1*			
14			
14			
14			

AI TOOLS IN RADIOLOGY- - LESION DETECTION

AI Solutions Resources News & Events Support Contact

BOOK A DEMO Q SEARCH

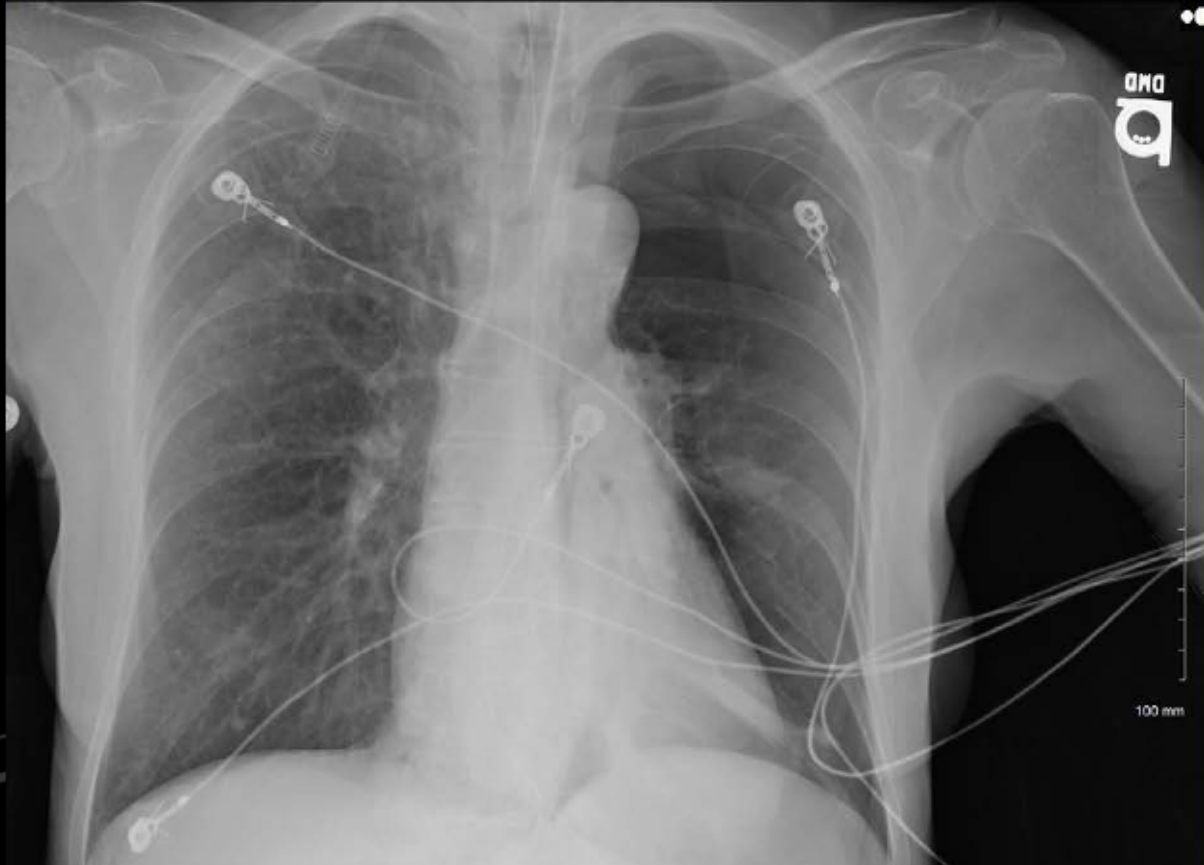
Visual
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n technology obstructed following clearly,

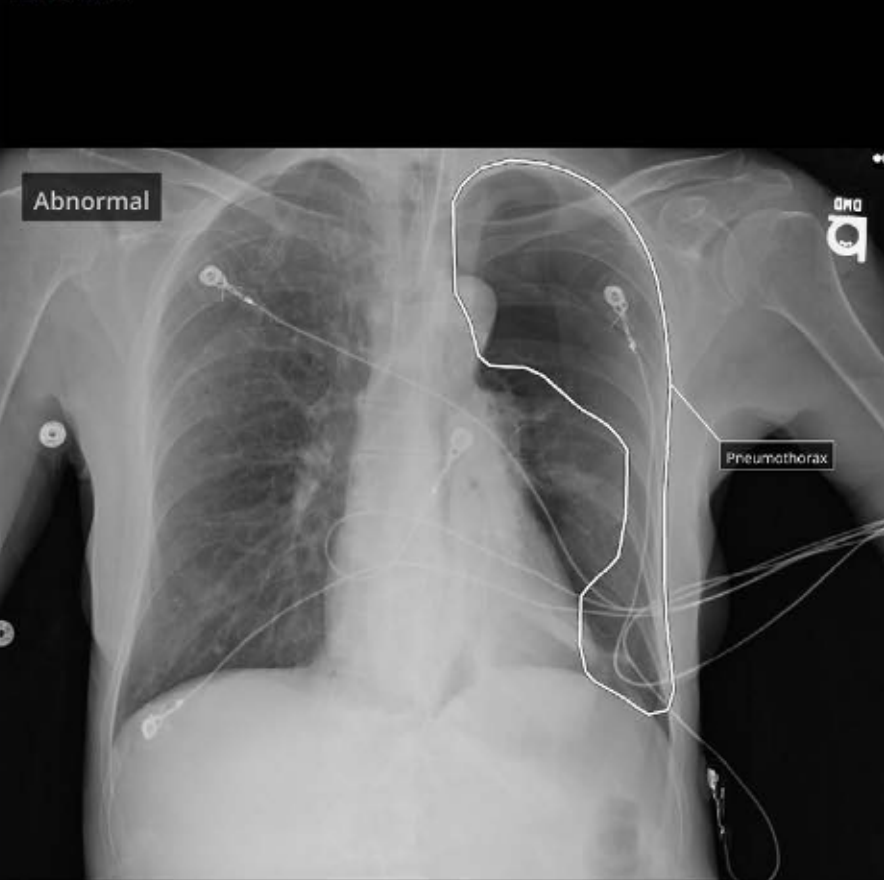
DETECTION



sb-1960



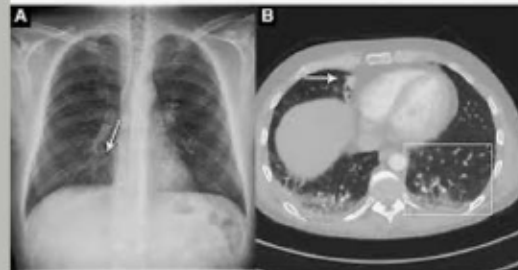
DOB: 03-Feb-1960



qXR Interpretation

Abnormal	YES
Lungs	
Opacity	YES
Consolidation	NO
Fibrosis	NO
Nodule	NO
Other Opacities (Suspicion of Atelectasis)	YES
Emphysema	YES
Cavity	NO
Pleura	
Blunted Costophrenic Angle	NO
Pleural Effusion	NO
Pneumothorax	YES
Mediastinum	
Tracheal Shift	NO
Hilar Prominence	NO
Mediastinal Widening	NO
Heart	
Cardiomegaly	NO
Diaphragm	
Raised/Tented Diaphragm	120 mm
Pneumoperitoneum	NO
Bones	
Rib Fracture	NO

NORMAL VS ABNORMAL



An AI tool can accurately identify normal and abnormal chest X-rays in a clinical setting, according to a study published in Radiology. The tool may greatly alleviate the heavy workload experienced by radiologists globally.

Mar 7, 2023

<https://www.rsna.org> › news › march

[AI Accurately Identifies Normal and Abnormal Chest X-Rays | RSNA](#)

AI TOOLS- CARE COORDINATION



AI TOOLS- CARE COORDINATION

RAD AI CONTINUITY

Improve patient care and reduce liability with automated follow-ups

• Car

Only 1 in 10 patients receive appropriate follow-up care. Rad AI Continuity closes the loop on follow-up recommendations for significant incidental findings in radiology reports.

CHAT-GPT BASED USE BY RESIDENTS IN RADIOLOGY

SO

You

give differential diagnosis for the following- a 2cm enhancing lesion in segment 5 that washes out on delayed phase, underlying cirrhosis



ChatGPT

When considering a 2cm enhancing lesion in segment 5 of the liver that washes out on delayed phase imaging, along with underlying cirrhosis, several differential diagnoses should be considered. The differential diagnosis for this presentation may include:

1. **Hepatocellular carcinoma (HCC):** This is the most common primary malignant tumor of the liver, especially in the setting of cirrhosis. It typically presents as a hypervascular lesion with arterial phase enhancement that washes out on delayed phases.
2. **Dysplastic nodules:** These are premalignant lesions commonly found in cirrhotic livers and can mimic HCC on imaging. They may also exhibit arterial phase enhancement and washout on delayed phases.
3. **Regenerative nodules:** These are benign nodules that can occur in cirrhotic livers. They may enhance during the arterial phase but usually do not exhibit washout on delayed phases.
4. **Focal nodular hyperplasia (FNH):** Though less common in cirrhotic livers, FNH can present as a

CHAT-GPT FOR DEVELOPING CONTENT

ChatGPT 3.5 ▾



You

develop CME content on TACE



ChatGPT

Title: Comprehensive Understanding of Transarterial Chemoembolization (TACE)

Introduction:

Transarterial Chemoembolization (TACE) is a cornerstone procedure in the management of hepatocellular carcinoma (HCC). It combines local chemotherapy with arterial embolization, targeting the tumor directly while minimizing systemic side effects. This CME content aims to provide a comprehensive understanding of TACE, including its indications, technique, patient selection, complications, and recent advancements.

Learning Objectives:



1. Understand the rationale behind Transarterial Chemoembolization (TACE) in the management of

Module 1: Understanding TACE

- Definition and historical background of TACE.
- Pathophysiology and rationale behind TACE in HCC.
- Comparison of TACE with other treatment modalities for HCC.
- Overview of TACE as a bridge to liver transplantation or as a palliative treatment.

Module 2: Indications and Patient Selection

- Criteria for patient selection: tumor size, number, and location; liver function; performance status; Child-Pugh classification.
- Multidisciplinary approach in patient selection: involving hepatologists, oncologists, interventional radiologists, and surgeons.
- Imaging modalities (CT, MRI, angiography) in assessing suitability for TACE.

Module 3: Technique of TACE

- Pre-procedural preparation: patient evaluation, laboratory investigations, and consent.
- Access techniques: femoral artery puncture → catheterization of hepatic artery.
- Chemotherapeutic agents commonly used in TACE: doxorubicin, cisplatin, mitomycin-C, and

TACE

Understanding of Transarterial Chemoembolization (TACE)

Chemoembolization (TACE) is a cornerstone procedure in the management of hepatocellular carcinoma (HCC). It combines local chemotherapy with arterial embolization, effectively targeting the tumor while minimizing systemic side effects. This CME content aims to provide a comprehensive understanding of TACE, including its indications, technique, patient selection, and recent advancements.

Understanding the rationale behind Transarterial Chemoembolization (TACE) in the management of

PREPARING LECTURE NOTES



You

prepare lecture notes for Y90 embolization

outcomes of Y 90 embolization for liver cancer



ChatGPT

Title: Outcomes of Y90 Embolization for Liver Cancer

I. Introduction

A. Overview of Liver Cancer

B. Introduction to Yttrium-90 (Y90) Embolization

C. Importance of Assessing Outcomes

II. Procedure of Y90 Embolization

A. Patient Selection Criteria

B. Pre-procedural Preparation

C. Technique and Administration of Y90

D. Post-procedural Care and Follow-up



DEVELOPING CASE SCENARIO



ChatGPT

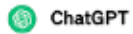
Case Scenario:

Patient Profile:

- Name: Sarah
- Age: 32
- Gender: Female
- Occupation: Marketing Manager
- Medical History: Diagnosed with relapsing-remitting multiple sclerosis (RRMS) two years ago.

Presenting Complaint:

Sarah presents to the neurology clinic with complaints of increased fatigue, weakness in her right leg, and difficulty with coordination over the past two weeks. She reports experiencing intermittent tingling sensations in both arms and legs, as well as occasional blurred vision in her right eye. Sarah mentions that her symptoms seem to worsen when she's stressed or fatigued.



ChatGPT

Case Scenario:

Patient Profile:

- Name: Sarah
- Age: 32
- Gender: Female
- Occupation: Marketing
- Medical History:

Presenting Complaint:
Sarah presents to the clinic with intermittent tingling in her right hand and difficulty with fine motor skills in her right hand. Sarah m

History of Present Illness:

Sarah reports that her initial symptoms of MS started four years ago when she noticed numbness and tingling in her left hand. At that time, she underwent a series of neurological examinations and diagnostic tests, including MRI scans, which revealed multiple lesions in her brain and spinal cord consistent with MS. She was subsequently diagnosed with relapsing-remitting multiple sclerosis (RRMS) and started on disease-modifying therapy (DMT).

Sarah states that she has been compliant with her DMT and has not experienced any significant relapses since starting treatment. However, she admits to occasional non-compliance with her prescribed exercise regimen and dietary recommendations due to work-related stress.

Physical Examination:

- Neurological examination reveals decreased strength (4/5) in the right leg compared to the left leg.
- Positive Romberg sign with mild swaying when standing with eyes closed.
- Intact sensation to light touch but diminished proprioception in the right leg.
- Visual acuity is 20/20 in the left eye and 20/40 in the right eye with evidence of a relative afferent pupillary defect (RAPD) on the right.

Patient Profile:

- Name: Sarah
- Age: 32
- Gender: Female
- Occupation: Nurse
- Medical History: Multiple sclerosis (MS) relapse

Presenting Complaint: Sarah presents with a relapse of her MS, characterized by new-onset weakness in her right leg, and difficulty with intermittent tearing of the right eye. Sarah

- MRI of the brain and spinal cord to assess for new lesions or evidence of disease progression.
- Lumbar puncture (CSF analysis) to evaluate for oligoclonal bands and evidence of inflammation in the central nervous system.
- Visual evoked potentials (VEP) to assess for optic nerve involvement.
- Blood tests to rule out other causes of neurological symptoms, including vitamin deficiencies and infectious diseases.

Assessment and Plan:

Based on Sarah's clinical presentation and diagnostic workup, the diagnosis of an MS relapse is suspected. The plan includes:

1. High-dose corticosteroid therapy (e.g., IV methylprednisolone) to reduce inflammation and shorten the duration of the relapse.
2. Symptomatic treatment for fatigue and neuropathic pain as needed.
3. Referral to physical therapy for gait training and strengthening exercises.
4. Close monitoring of symptoms and neurological status for signs of improvement or progression.
5. Counseling on the importance of stress management, regular exercise, and adherence to medication to optimize disease control and prevent future relapses.

PREPARING ASSESSMENT QUESTIONS

 **You**

prepare assessment questions for TARE over TACE

 **ChatGPT**

Assessment questions comparing transarterial radioembolization (TARE) to transarterial chemoembolization (TACE) can help evaluate the understanding of key differences, indications, and outcomes between these two locoregional treatments for liver tumors. Here are some assessment questions:

1. Indications and Patient Selection:

- What are the primary indications for transarterial chemoembolization (TACE) in the treatment of liver tumors?
- What are the primary indications for transarterial radioembolization (TARE) in the treatment of liver tumors?
- How does patient selection differ between TACE and TARE? What factors influence the choice between these treatments?

2. Mechanism of Action:

- Describe the mechanism of action of transarterial chemoembolization (TACE) in the treatment

between these treatments?

2. Mechanism of Action:

- Describe the mechanism of action of transarterial chemoembolization (TACE) in the treatment of liver tumors.
- Explain the mechanism of action of transarterial radioembolization (TARE) in the treatment of liver tumors. How does it differ from TACE?

3. Efficacy and Survival Outcomes:

- Compare the efficacy of TACE and TARE in terms of tumor response rates and overall survival outcomes for hepatocellular carcinoma (HCC).
- In which patient populations has TARE shown potential superiority in survival outcomes compared to TACE? Provide examples from the literature.

4. Safety and Adverse Events:

- Discuss the safety profile of transarterial chemoembolization (TACE), including common adverse events and complications.
- What are the main differences in the safety profile between transarterial radioembolization (TARE) and TACE? How do they compare in terms of post-embolization syndrome and other adverse events?

5. Recurrence and Long-Term Outcomes:

- Describe the recurrence rates following transarterial chemoembolization (TACE) for liver

You
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ChatGPT
Assessmen
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assessment

1. Indication:

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- How do
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2. Mechanism

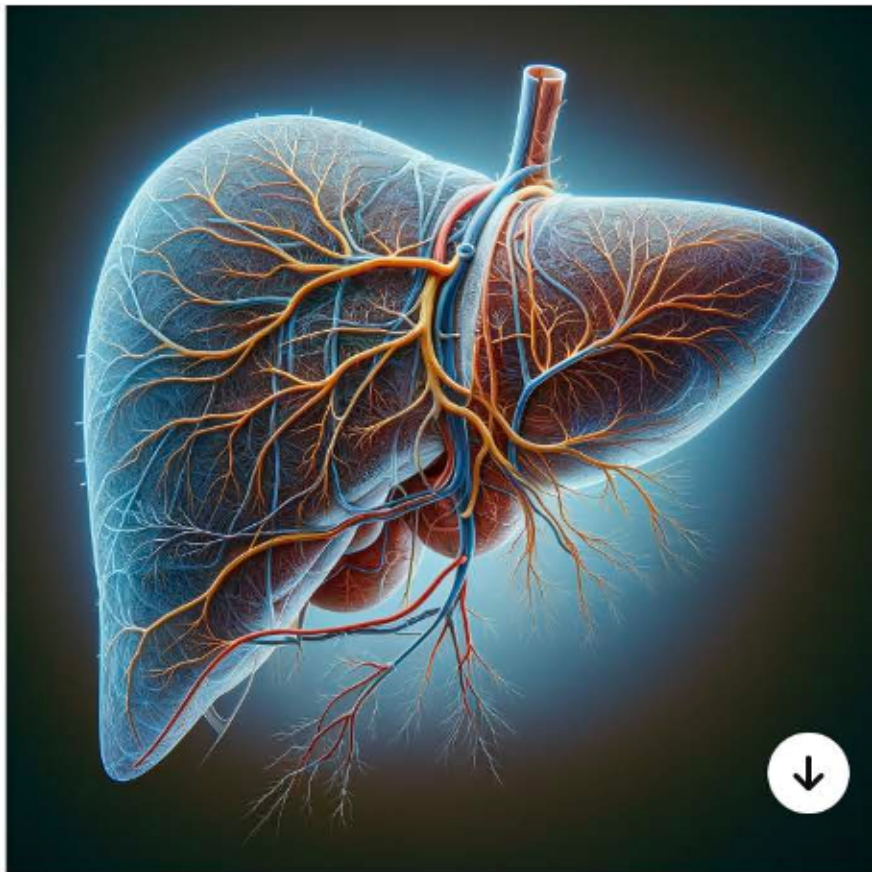
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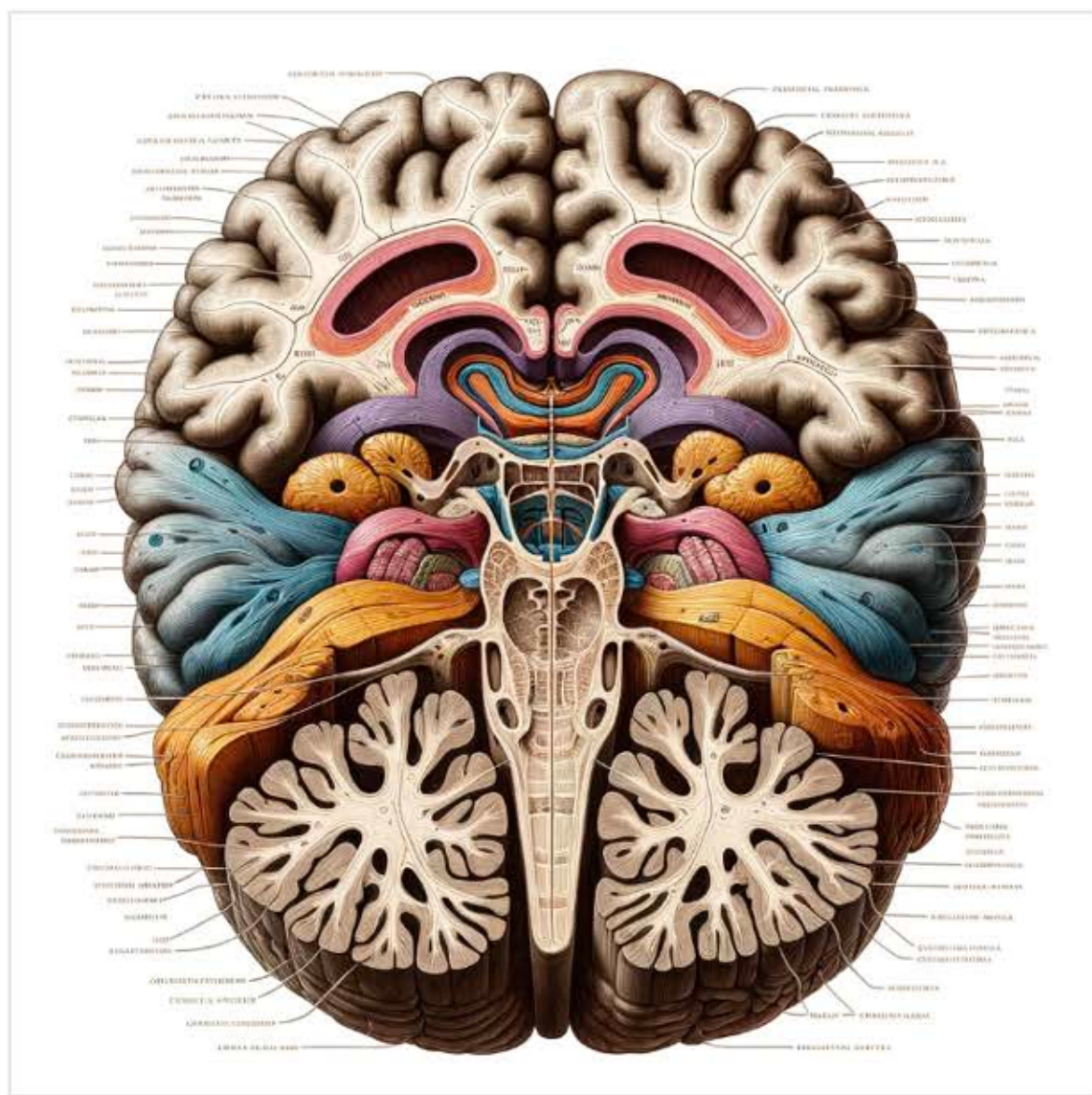
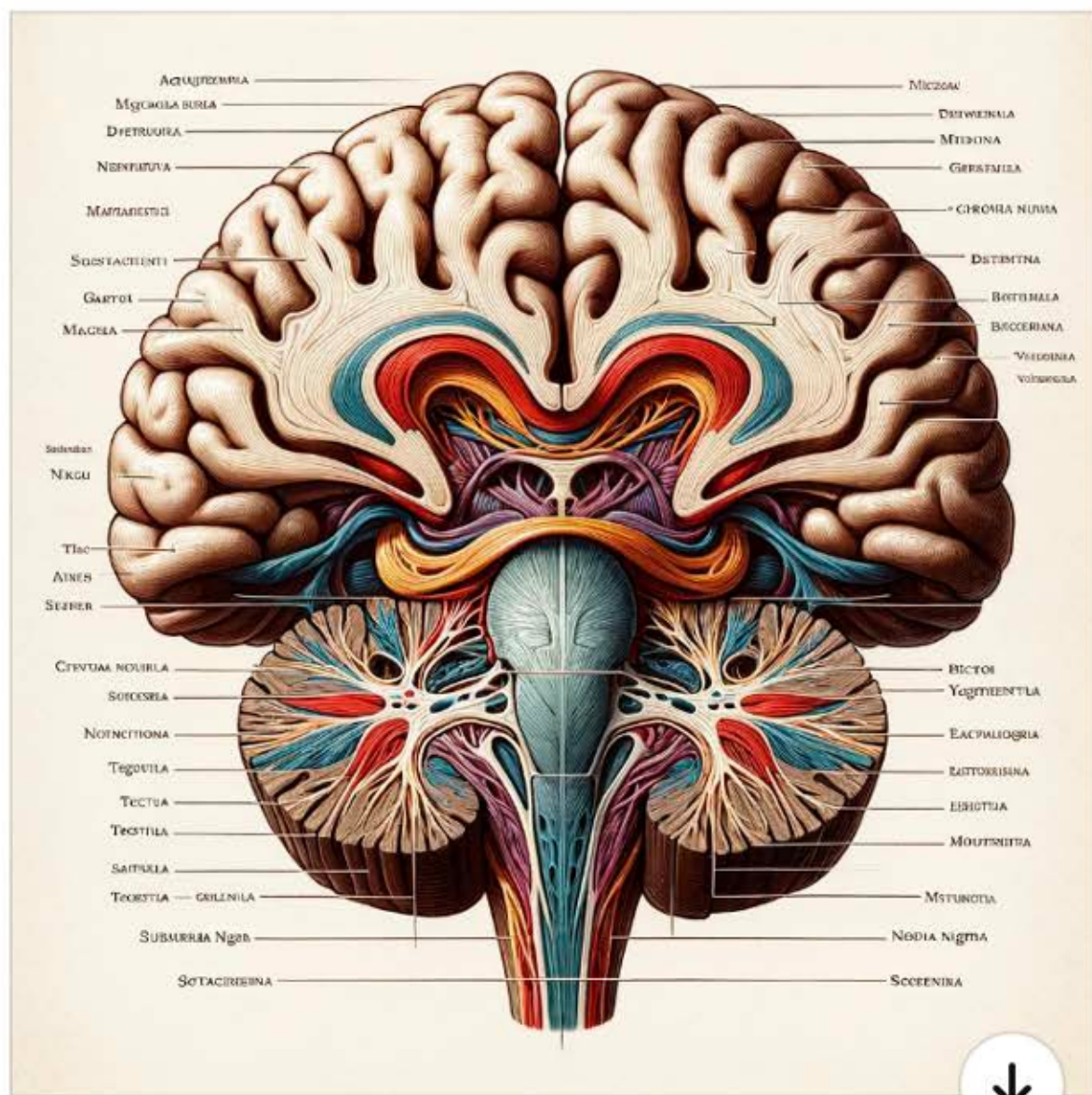
ADVANCED FEATURES (PAID)

draw the arterial anatomy of liver



DALL-E





Here are the images illustrating the cross section of the human midbrain with an emphasis on the

ional view of the midbrain's in

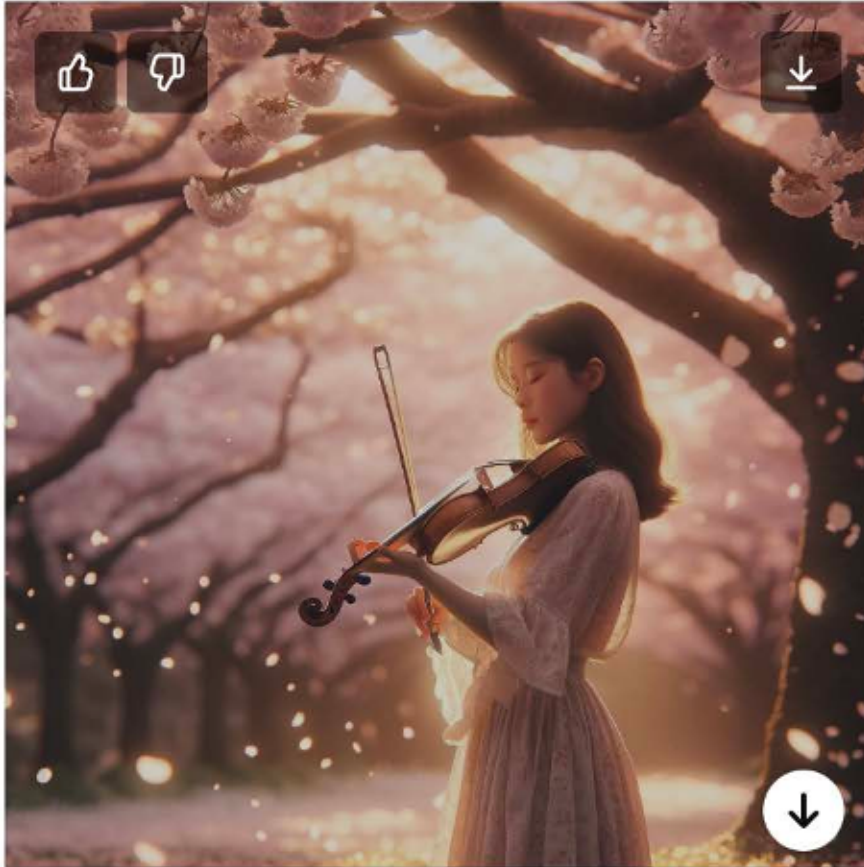
so

You

draw an image of a young woman palying violin against cherry blossom trees



DALL-E



RESEARCH APPLICATIONS- PEER REVIEWED RESULTS

Consensus ▾



You

what are some factors that predict poor response post liver tumor embolization



Consensus



Talked to chat.consensus.app

The factors that predict poor response post liver tumor embolization, such as Transarterial Chemoembolization (TACE) or Yttrium-90 (90Y) radioembolization, are crucial for tailoring patient treatment plans and managing expectations. Based on evidence from recent studies, several key factors have been identified:

1. **Alpha-fetoprotein (AFP) Levels:** Lower AFP levels (<100 ng/mL) before embolization are associated with a better pathologic complete response (pCR), indicating a favorable prognosis post-embolization for hepatocellular carcinoma (HCC) patients ([Yang et al., 2019](#)).
2. **Tumor Characteristics:** Single tumors and smaller tumor sizes (main tumor size ≤ 5 cm) are predictors of a better response to embolization. Larger tumors and the presence of microvascular tumor embolism are associated with a higher risk of recurrence and poorer outcomes ([Joh et al., 2005](#)), ([Yuan et al., 2020](#) ↓).

DATA ANALYSIS FROM SPREADSHEETS



pt CT dose report 15 scan 1-24 to 3-24 t...
Spreadsheet



Data Analyst

I see you've uploaded a file named "pt CT dose report 15 scan 1-24 to 3-24 total dose.xlsx". How can I assist you with it?



You

how does dose report compare to standard



Data Analyst

To compare the dose report from your file to standard values, I'll first need to understand the data in your file. This involves checking the type of dose metrics provided (like CTDIvol, DLP, etc.), the values for each patient or scan, and then comparing those values to established standard dose levels for similar types of CT scans.



Let's start by examining the content of your file to identify the dose metrics and values it contains.

equipment used, and patient demographics (like adult vs. pediatric patients). For adult head CT scans, a typical reference level for CTDIvol might be around 60 mGy, but this can vary.

Shall I proceed with summarizing the CTDIvol values for each anatomical area mentioned in the file? [>-]

SO

You

yes

>-

Data Analyst

The cleaned data contains columns for the date, scan area, and CTDIvol values for up to three different anatomical areas per scan session. For simplicity, let's focus on summarizing the CTDIvol values for each mentioned anatomical area (e.g., Head, Face/Mandible, C-spine). We'll calculate the average CTDIvol for each area and then compare these averages to typical reference levels.

To proceed, I'll aggregate the CTDIvol values by the anatomical area and calculate the average dose. Let's start with this analysis. [>-]

The summary of CTDIvol values by anatomical area is as follows:



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values
levels:

Let's s

- **Head:** Average CTDIvol is approximately 46.59 mGy, with data from 14 scans.
- **Face/Mandible:** Average CTDIvol is approximately 29.52 mGy, with data from 9 scans.
- **C-spine:** Average CTDIvol is approximately 19.74 mGy, with data from 11 scans.

To compare these values to standard dose levels:

- For **Head CT scans**, a typical reference level might be around 60 mGy, suggesting that the average dose for head scans in this report is lower than the standard reference.
- For **Facial or Mandible CT scans**, specific reference levels can vary, but doses are generally expected to be lower than for full head scans due to the smaller volume of tissue being irradiated. The reported average seems to be within a reasonable range, though specific standards may vary.
- For **C-spine (Cervical Spine) CT scans**, reference levels are also lower than those for head scans due to the smaller and more focused scan area. The average dose reported here appears to be within a reasonable range.

It's important to note that reference levels can vary by region, institution, and the specific protocols used. These comparisons are made  with general benchmarks in mind. For more accurate assessments, it's best to consult the specific dose limits or reference levels provided by

The background is a dark gray to black gradient. It features several abstract geometric elements: a large circle with a dashed outer boundary and a solid inner boundary, with a small arrow pointing clockwise, located in the bottom-left corner; a large circle with a dashed outer boundary and a solid inner boundary, with a small arrow pointing counter-clockwise, located in the bottom-right corner; a large circle with a dashed outer boundary and a solid inner boundary, with a small arrow pointing clockwise, located in the top-left corner; and a large circle with a dashed outer boundary and a solid inner boundary, with a small arrow pointing counter-clockwise, located in the top-right corner. Additionally, there are several concentric circles and lines, some with numerical labels (100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210) along their perimeters, suggesting a scale or measurement. The overall aesthetic is clean, modern, and technical.

THANK YOU!