●CT reading experiment

Control ID：

ID：

Please answer questions No.1 to No.15 by reading CT images. Answer all questions. In addition, fill-in survey for analysis.

【Answer instruction for participants】

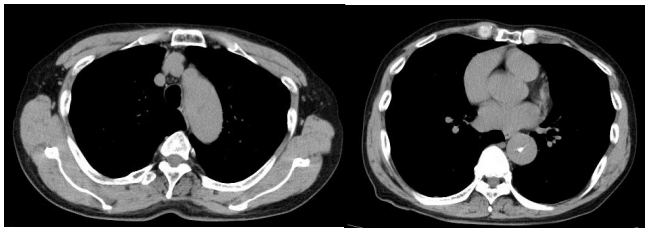
At first, Check CT images in DVD－ROM. Then, Answer to each questions and fill-in answer sheet referring to patients' information example. If you find abnormal findings, write abnormal findings, sketch in the schema in right side of the answer sheet and state diagnosis. In addition, **circle yes or no （Y: Yes・N: No） of** benchmarks/reasons for the diagnosis.
in right side of the answer sheet. (**essential**） If you judged normal, write ”normal in diagnosis. If you diagnosed normal, **you don’t need to answer** benchmarks/reasons for the diagnosis. In this examination. We focus on recognition of Killer disease and fatal abnormal findings, and reduce participant’s workload, You don’t need answer abnormal but not serious or not needing treatment findings If you find it.

【Attention】

・In this experiment, basically If you answer abnormality and/or diagnosis correctly, we judge it correct answer. However, If you diagnose ileus, you need to answer ileus origin, etiology to get full scores

・Please double check question number in DVD-ROM and answer sheet.

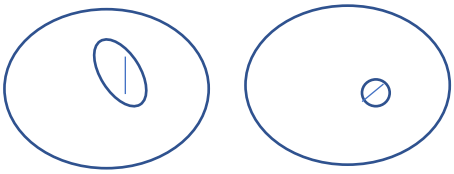
★Examples



Essential

CT images

【Question X】 60s male 【Chief complaint】
Sudden onset backpain
【Past medical History】 Hypertension



Findings: I can see Aortic dissection from aortic Arch to thoracic aorta. Calcification is identified in Center of aorta
Diagnosis: Acute aortic dissection

reasons for the diagnosis/benchmarks

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

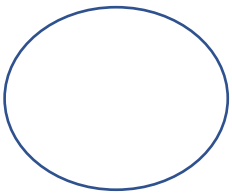
Please answer following question before main experiment.

1. Your occupation in hospital
（If you are medical doctor, please write your specialty i.e：doctor(Emergency medicine), junior resident, Radiological technologist etc)
2. Years of work experience ：（ ）years（If you are 1st year of work experience, write month）
3. In your hospital, Do radiological technologist do CT-reading support in after-hours settings?(Y/N)
4. if you select “Y” in question3, How to do it(CT report, Tel, intra E-mail, others( ))
5. Do you think that radiological technologist need to do reading support in after-hours settings?(Y/N)
6. If you select “Y” in question5, Why do you think so?( )
7. Have you experienced clinical case which diagnosis was changed by reading support of radiological technologist in after-hours settings?(Y/N)
8. If you select “Y” in question3 please write details(

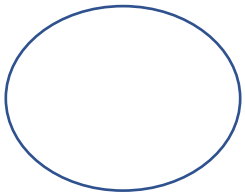
)

【**Question1**】 30s male、 【Chief complaint 】 Unclear 【Laboratory data】 pH7.4 Hb15.4g/dL
【Vital Signs】 BT36.9℃

AXI



AXI



findings：

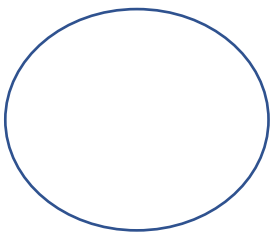
diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question2】 40s female 【 Chief complaint 】 Epigastric pain 【Present medical History】 Epigastric pain from 2weeks ago, worsen 【 Laboratory data 】 TG 232 mg/dL↑ , Total cholesterol 249mg/dL↑

AXI



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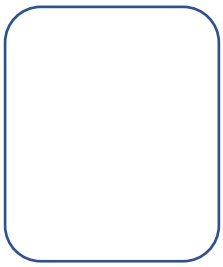


Findings ：

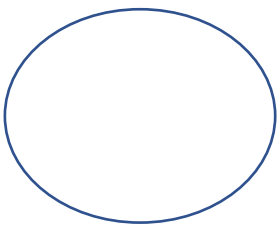
Diagnosis：

Benchmarks/reasons for the diagnosis

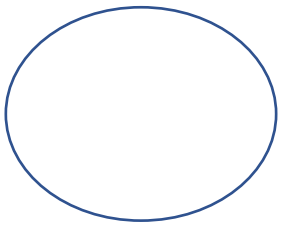
1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question3】 20s male 【Chief complaint】 Unclear 【 Vital Signs 】 BP 125/42mmHg
【Physical Examination findings 】 abdominal tenderness(-)

AXI



AXI/Enhanced



findings：

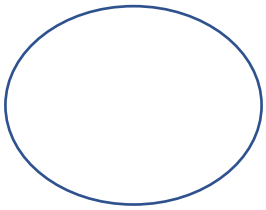
Diagnosis：

Benchmarks/reasons for the diagnosis

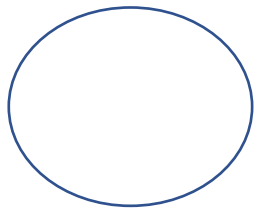
1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question4】 80s male 【Chief complaint 】 discomfort of epigastric
【Past medical History 】 Angina pectoris, diabetics, atrial fibrillation 【Laboratory data】
WBC23680/μL↑、 D-dimer－18.5μg/mL↑

AXI



AXI/enhaced



Findings：

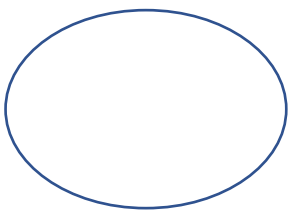
Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question5】 90s female 【Chief complaint 】 abdominal pain, leg pain
【 Physical Examination Findings 】 abdominal distension、 abdominal tenderness(-)
【 Laboratory data 】 WBC9820 /μL↑

AXI



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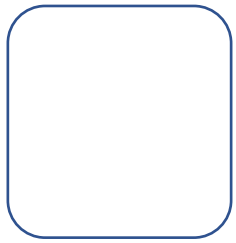


Findings：

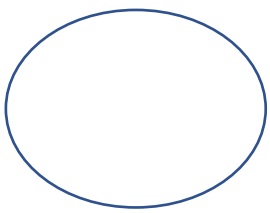
Diagnosis：

Benchmarks/reasons for the diagnosis

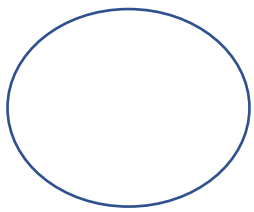
1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question6】 20s male 【 Chief complaint 】 Abdominal pain
【 Laboratory data 】 WBC 11500 /μL↑, CRP2.9 mg/dL↑

AXI



COR enhanced



Findings：

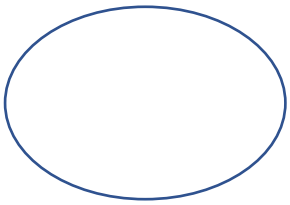
Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question7】 70s male 【 Chief complaint 】Abdominal pain around umbilicus
【Vital Signs】Bp139/72mmHg BT36.6℃,
【 Physical examination findings 】 Muscular defense (-)
【 Laboratory data 】 WBC9690/μL↑ D-Dimer 2.7 μg/mL↑, ALP334 U/ L↑

AXI



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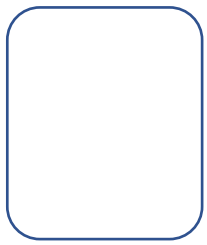


Findings：

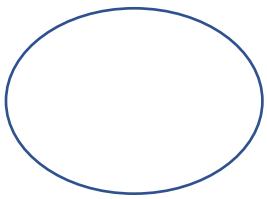
Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question8】 40s male 【Chief complaint 】Abdominal pain 【Past medical history 】 Hematemesis due to gastric ulcer, hypertension, diabetics, heavy drinker 【Physical examination findings】 Abdominal tenderness in epigastric area

AXI



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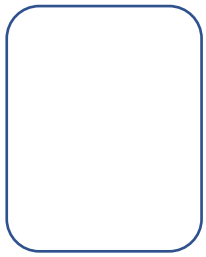


Findings：

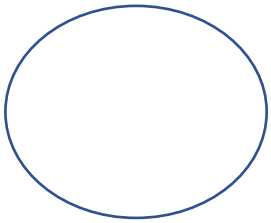
Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question9】 20s male【 Chief complaint 】Unclear 【physical examination findings】 Abdominal tenderness(-)【 Laboratory data 】 CK 384 IU/L↑、AST 62 U/ L ↑、ALT 43 U/ L↑ 、LDH 328 U/ L↑ ALP 221 U/ L↑

AXI



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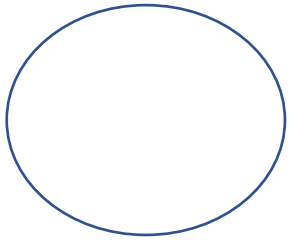


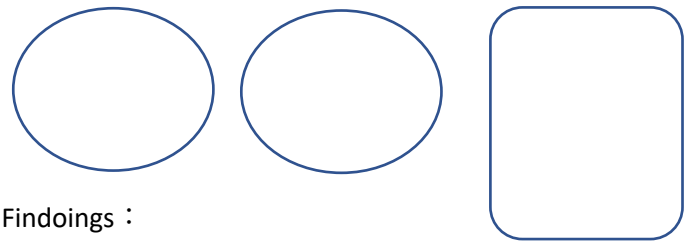
Findings：

Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question10】 70s male 【 Chief complaint 】 abdominal pain 【Present medical History 】 Renal cancer was indicated



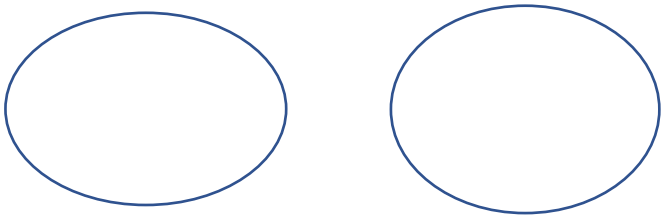
Findoings：

Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question11】 40s female 【 Chief complaint 】 abdominal pain, genital bleeding
【Present medical History】 Fertility treatment was performed from 3 years ago



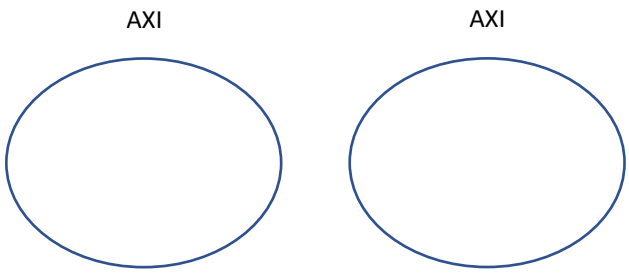
Findings：

Diagnosis：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question12】 70s female 【 Chief complaint】 melena, intermittent abdominal pain
【Past Medical History 】 Hypertension
【Physical Examination Findings 】 Tenderness (-), rebound tenderness(-)
【 Laboratory data 】 WBC15740 /μL↑ , CRP 1.03mg/dL↑



Findings：

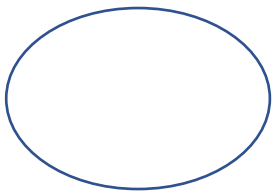
Diagnosis：

Benchmarks/reasons for the diagnosis

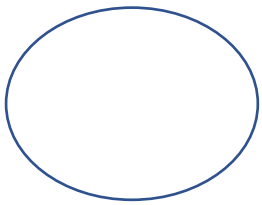
1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

【Question13】 60s male 【Chief complaint】 Abdominal pain 【 Past Medical History 】 Hypertension, Diabetes , Angina pectoris

AXI



AXI



Findings：

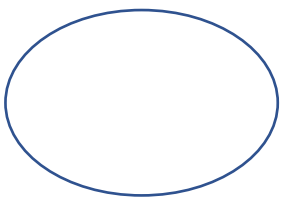
Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

Diagnosis：

【Question14】 80s female 【Chief complaint 】abdominal pain 【physical examination findings】 tenderness in lower abdomen, rebound tenderness (+)
【Laboratory data】 WBC 10570 /μL↑、 CRP 2.57 mg/dL↑ , D-Dimer4.3μg/mL↑

AXI



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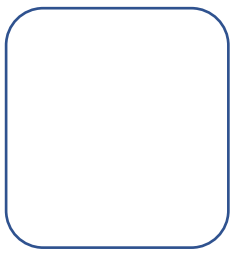


Findings：

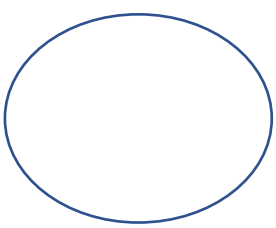
Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

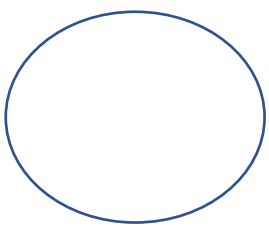
Diagnosis：

【Question15】 90s male 【Chief complaint 】unclear 【Past Medical History】 Hypertension

AXI



AXI



Findings：

Benchmarks/reasons for the diagnosis

1) Medical history: chief complaint, past history, physical examination findings (Y/N)
2) Laboratory findings (Y/N)
3) Abnormal structure(Y/N)
4) Abnormal findings in a normal structure (Y/N)
5) Hounsfield unit value changes around the target (Y/N)
6) Serial findings in a different image slice (Y/N)
7) CT-window optimization (Y/N)
8) Hounsfield unit value in a target structure (Y/N)
9) Laterality (Y/N)
10) Reading of coronal and enhanced images (Y/N)
11) Necessity of careful reading (Y/N)

Diagnosis：

Total Score

End of examination

★*Thank you for your participation and cooperation.*