

Survey Uncertainty

In radiology reports, radiologists often use hedging terms to convey a certain level of uncertainty regarding their findings, impressions and suggested diagnoses. For example, a radiology report might read:

"Lateral view somewhat limited due to overlying motion artifact. Widening of the mediastinum and **probable** cardiomegaly are **likely** due to low lung volumes. Crowding of the pulmonary vasculature with **possible** minimal perihilar edema, but **no overt** pulmonary edema. There **may be** a new small, right pleural effusions or **possibly** pneumothorax."

We have highlighted 6 terms related to (un)certainty regarding the presence or absence of a finding.

In our research, we have created a ranking of such uncertainty terms in an automated way. We aim to use this ranking to enable a more faithful evaluation of automated AI models which are trained to generate radiology reports. To this end, it's important that we check whether this ranking of uncertainty terms aligns with the opinion of medical professionals.

In the next section, we provide a description of your task.

* Indicates required question

Task 1: Ranking terms

Assume there is a certainty spectrum ranging from:

"**<finding> is certainly absent**"
to
"**<finding> is certainly present**"

You will be given two terms that can be used in radiology reports to express the degree of certainty about the presence or absence of a finding. Accompanying each term, you will receive 5 example sentences where this term is used. Each sentence contains a placeholder "<finding>", which represents a medical observation (e.g., consolidation, effusion, nodule), whose degree of certainty is modified by the term.

Your task is to vote for the term which is closer to **<finding> is certainly present** on this scale. In other words, your task is to choose which of the two terms expresses a higher degree of certainty that the finding is present, by reading the example sentences and then making that choice.

What follows is an example.

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Term 1: "**most likely**".

Example sentences:

- The heart remains stably enlarged, which **most likely** reflects <finding>, although pericardial effusion cannot be entirely excluded.
- Since the prior exam, there is increasing opacification at the right base, which is **most likely** due to <finding>, given the acute change.
- Right pleural effusion is redemonstrated, small associated with right lower lobe opacity **most likely** reflecting <finding>.
- Hazy opacities involving the right middle and lower lobes **most likely** represents <finding> or infectious process.
- Patchy opacity at the left base **most likely** represents compressive <finding>.

Term 2: "**might**".

Example sentences:

- Although it **might** reflect <finding>, it should also be followed to exclude the possibility of developing infectious process.
- Small bilateral <finding> **might** also have newly occurred.
- The differential diagnosis **might** include <finding> as previously suggested as well as potentially sarcoidosis.
- Still present right basal opacity **might** reflect the <finding> as well as a combination of pleural effusion with atelectasis.
- The pre-existing <finding> **might** have mildly improved.

From the context of the sentences, we can infer that "**most likely**" reflects a higher certainty of the <finding> being present than "might". Therefore, we vote for "**most likely**".

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You will now see 50 examples which are similar to the example shown above. In each case, **please vote for the term that expresses a higher degree of certainty that the finding is present.**

Note: After this task, one other (shorter) task will follow.

Term 1: probable.

Example sentences:

- improving right upper lobe consolidation stable appearance of the left lower lobe consolidation with **probable** trace <finding> on the left.
- **probable** <finding> in the right perihilar region.
- **probable** bilateral <finding>.
- persistent small right opacity and **probable** new left <finding> with associated atelectasis.
- **probable** small left <finding>.

Term 2: could be due to.

Example sentences:

- homogeneous opacification of the right lower hemithorax medially **could be due to** either consolidation in the right lower lobe or posteriorly layering <finding>, best evaluated with an upright chest radiograph when feasible.
- more discrete consolidation in the right lower lung, where there is also a clear atelectasis, and in the infrahilar left lower lobe **could be due to** concurrent <finding>.
- there is possible minimal increased left lung hazy opacity which **could be due to** <finding>.
- severe opacification of the left lung has a distinctly nodular quality which **could be due to** collections of <finding> in bullae, or multiple septic emboli.
- a substantial increase in <finding> **could be due to** acute pulmonary embolism, given the extensive intrathoracic malignancy.

- Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

probable

could be due to

Term 1: difficult to exclude.

Example sentences:

- bilateral hilar vascular prominence is re-demonstrated with subtle <finding> in the left upper lung likely representing confluence of vasculature though a true nodule **difficult to exclude**.
- there is slight blunting of both costophrenic angles, felt most likely be due to overlying soft tissues, but a trace <finding> be **difficult to exclude**.
- no large <finding> is seen, although trace effusions are **difficult to exclude**.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- mild <finding> is **difficult to exclude** in the correct clinical setting.

Term 2: appear.

Example sentences:

- the <finding> **appear** clear.
- the <finding> **appear** well inflated.
- the mediastinal and <finding> **appear** unchanged, allowing for differences in technique.
- mid <finding> **appear** intact.
- <finding> **appear** grossly intact.

2. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

difficult to exclude

appear

Term 1: could reflect.

Example sentences:

- a subtle area of increased opacity has developed at the left lung base and **could reflect** acute <finding>, developing pneumonia, or atelectasis.
- the pulmonary hila are slightly prominent with a tapered configuration, which **could reflect** <finding>.
- a subtle area of increased opacity has developed at the left lung base and **could reflect** acute aspiration, developing <finding>, or atelectasis.
- patchy opacities in the right upper lobe in the right mid and lower lung are unchanged, which **could reflect** resolving <finding>, although pneumonia cannot be entirely excluded.
- interval decrease in size of a right pleural effusion with residual patchy basilar opacity, which **could reflect** residual compressive atelectasis, <finding>, contusion, and less likely pneumonia.

Term 2: differential.

Example sentences:

- interval appearance of patchy opacity at the left base could represent early pneumonia, although <finding> or patchy atelectasis would also be in the **differential**.
- **differential** diagnosis includes atypical pneumonia and <finding>.
- **differential** includes nodule shadow, <finding>, or pulmonary parenchymal nodule.
- **differential** for these lesions includes amiodarone toxicity and <finding>.
- **differential** would include infectious processes in the proper clinical setting or <finding>.

3. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could reflect

differential

Term 1: likely.

Example sentences:

- the pacer device overlaps persistent opacification of the left costophrenic angle that is probably unchanged, however, **likely** reflecting a combination of atelectasis and a small loculated <finding>.
- small left <finding> is **likely** also present.
- unchanged bilateral mid lung opacities **likely** reflect <finding> given history of septic emboli.
- bibasilar airspace opacities are **likely** reflective of <finding>.
- the pacer device overlaps persistent opacification of the left costophrenic angle that is probably unchanged, however, **likely** reflecting a combination of <finding> and a small loculated pleural effusion.

Term 2: could be.

Example sentences:

- left suprahilar opacity, which **could be** a second site of <finding> or relate to mild volume overload.
- a 6 mm nodular opacity projecting over the right second anterior rib **could be** a pleural calcification shown on the chest ct, 4:20 or a new lung <finding>
- this **could be** due to varying degrees of <finding> at the right lung base or a phrenic nerve palsy captured at different stages in the respiratory cycle.
- severe opacification of the left lung has a distinctly nodular quality which **could be** due to collections of fluid in bullae, or multiple <finding>.
- perihilar opacification in the left **could be** <finding> but is more likely atelectasis as well.

4. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

likely

could be

Term 1: versus.

Example sentences:

- this may be due to resolving pulmonary edema **versus** atelectasis **versus** residual <finding>.
- lower lung opacities which could represent atelectasis **versus** <finding>.
- opacities at the left lung base are either atelectasis, likely due to low <finding> **versus** aspiration in the right clinical context.
- there is slight interval increase in the apical collection of the fluid that potentially might reflect accumulation of <finding> **versus** bleeding.
- this may be due to resolving pulmonary edema **versus** <finding> **versus** residual infiltrate.

Term 2: could.

Example sentences:

- these have slightly changed their appearance and still **could** be due to either <finding> or infectious infiltrate.
- thin anterior flowing syndesmophytes are present along the lateral and anterior aspects of the visualized thoracic spine, which **could** be seen with <finding>.
- opacity at right lung base which **could** represent patchy atelectasis, pneumonia or <finding>.
- the opacity **could** represent both <finding> or malignancy.
- the opacity **could** represent both pneumonia or <finding>.

5. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

versus

could

Term 1: difficult to exclude.

Example sentences:

- bilateral hilar vascular prominence is re-demonstrated with subtle <finding> in the left upper lung likely representing confluence of vasculature though a true nodule **difficult to exclude**.
- there is slight blunting of both costophrenic angles, felt most likely be due to overlying soft tissues, but a trace <finding> be **difficult to exclude**.
- given the severity of the acute and chronic pulmonary abnormalities, concurrent <finding> would be **difficult to exclude** radiographically but there is no asymmetry to suggest it.
- in the appropriate setting, the possibility of supervening <finding> would be **difficult to exclude** given the substrate of diffuse pulmonary disease.
- developing <finding> is **difficult to exclude**, however.

Term 2: may reflect.

Example sentences:

- in the right lung base is a small nodule measuring 13 mm which **may reflect** a <finding> or alternatively a pulmonary parenchymal nodule or osseous lesion.
- residual left upper lobe stellate opacity **may reflect** <finding> after pneumonia.
- blunting of the right costophrenic angle is unchanged and **may reflect** chronic <finding>.
- given the multiple attempts to adjust the dobbhoff tube, the bibasilar opacities and the left perihilar opacity **may reflect** <finding>, but infectious process cannot be excluded and should be closely followed.
- mediastinal lucencies concerning for pneumomediastinum subcutaneous emphysema subdiaphragmatic free air, all new compared to prior study, and in the setting of recent surgery **may reflect** air <finding> along the fascial planes.

6. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

difficult to exclude

may reflect

Term 1: could represent.

Example sentences:

- although this **could represent** severe <finding>, the possibility of supervening pneumonia or even developing ards must be considered.
- persistent probable left lower lobe posterior opacity which **could represent** atelectasis or a component of <finding>, to be clinically correlated.
- there continues to be moderate cardiomegaly and opacity projecting over the left mid lung that **could represent** loculated <finding>.
- there is opacity in the right lung base which **could represent** patchy atelectasis, early pneumonia or <finding>.
- since the prior exam, there is increased opacity at the right lung base which **could represent** a combination of <finding> and effusion, though underlying pneumonia is difficult to exclude in the correct clinical setting.

Term 2: difficult to exclude.

Example sentences:

- since the prior exam, there is increased opacity at the right lung base which could represent a combination of atelectasis and effusion, though underlying <finding> is **difficult to exclude** in the correct clinical setting.
- there is slight blunting of both costophrenic angles, felt most likely be due to overlying soft tissues, but a trace <finding> be **difficult to exclude**.
- developing <finding> is **difficult to exclude**, however.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- patchy streaky opacity in the right lung base likely reflects atelectasis though <finding> is **difficult to exclude**.

7. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could represent

difficult to exclude

Term 1: and/or.

Example sentences:

- there is hazy opacity at the left lung base, consistent with a small left effusion and underlying collapse **and/or** <finding>.
- as before, the lungs are hyperinflated, with flattening of the hemidiaphragms and enlargement of the retrosternal airspace, consistent with <finding> **and/or** copd.
- 1 copd with extensive pleural/parenchymal scarring, right effusion with underlying <finding> **and/or** consolidation, and right /infrahilar opacity are unchanged compared with.
- there is some blunting of the left costophrenic angle, which may reflect pleural thickening **and/or** a small <finding>.
- slight worsening of left lower lobe <finding> **and/or** consolidation.

Term 2: could be due to.

Example sentences:

- opacification of the right upper lung **could be due to** asymmetric pulmonary edema, scapula projecting over the lung or in the appropriate clinical setting <finding>.
- worsening opacity in the right lower lobe which **could be due to** increasing <finding>, but developing pneumonia cannot be excluded and followup is recommended.
- opacification of the right upper lung **could be due to** asymmetric <finding>, scapula projecting over the lung or in the appropriate clinical setting pneumonia.
- again seen is elevation of the right hemidiaphragm and blunting of the right costophrenic angle which **could be due to** a trace right <finding>.
- this **could be due to** varying degrees of atelectasis at the right lung base or a <finding> captured at different stages in the respiratory cycle.

8. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

and/or

could be due to

Term 1: difficult to exclude.

Example sentences:

- superimposed hilar <finding> is **difficult to exclude**.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- there is slight blunting of both costophrenic angles, felt most likely be due to overlying soft tissues, but a trace <finding> be **difficult to exclude**.
- since the prior exam, there is increased opacity at the right lung base which could represent a combination of atelectasis and effusion, though underlying <finding> is **difficult to exclude** in the correct clinical setting.

Term 2: appears.

Example sentences:

- the <finding> **appears** somewhat dilated and unfolded on the current examination, likely related to marked patient rotation to the right.
- <finding> **appears** engorged.
- <finding> of the right hemidiaphragm **appears** similar.
- the <finding> **appears** relatively clear.
- <finding> **appears** grossly stable from the prior study.

9. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

difficult to exclude

appears

Term 1: differential.

Example sentences:

- **differential** would include infectious processes in the proper clinical setting or <finding>.
- **differential** includes nipple shadow, <finding>, or pulmonary parenchymal nodule.
- **differential** for these lesions includes <finding> and cryptogenic organizing pneumonia.
- **differential** would include <finding> in the proper clinical setting or organizing pneumonia.
- **differential** includes <finding>, osseous lesion, or pulmonary parenchymal nodule.

Term 2: more likely.

Example sentences:

- the localized nature of this process **more likely** represents <finding> or infectious process rather than reexpansion edema.
- large triangular opacity in the left mid lung is **more likely** <finding> or infectious than traumatic.
- the localized nature of this process **more likely** represents <finding> or infectious process rather than reexpansion edema.
- perihilar opacification in the left could be pneumonia but is **more likely** <finding> as well.
- given rapid improvement, <finding> or ards are **more likely** etiologies than pneumonia.

10. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

differential

more likely

Phrase 1: may be due to.

Example sentences:

- left retrocardiac opacity is seen which **may be due to** combination of <finding> and atelectasis, although focal consolidation is not excluded.
- left base retrocardiac opacity **may be due to** combination of pleural effusion and <finding> however, underlying consolidation is not excluded.
- there is <finding> of an upper lumbar vertebral body which may be increased somewhat, although the apparent difference **may be due to** differences in orientation.
- again seen, there are increased diffuse interstitial opacities bilaterally, **may be due to** <finding>, although appears less severe than on the prior study.
- recurrent <finding> in an area that is chronically abnormal **may be due to** atypical mycobacterial <finding>.

Phrase 2: suggesting.

Example sentences:

- the lungs remain hyperinflated **suggesting** <finding>.
- the pulmonary vasculature is minimally prominent **suggesting** pulmonary venous hypertension or slight <finding> without frank congestive heart failure.
- findings **suggesting** mild <finding> including pleural effusions, but no definite superimposed process.
- findings **suggesting** mild <finding>.
- increased new interstitial abnormality, **suggesting** recurrence of <finding> or mild-to-moderate pulmonary edema aspiration could also be considered.

11. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

may be due to

suggesting

Phrase 1: likely.

Example sentences:

- patchy and linear opacities in the lung bases **likely** reflect areas of <finding>.
- residual left upper lobe opacity **likely** reflects <finding>, as seen on the prior chest ct, with bibasilar linear opacities either reflecting subsegmental atelectasis or <finding>.
- vague nodular opacity projecting over the right mid lung, **likely** a <finding>, but confirmation with a repeat pa view with nipple markers is recommended when clinically appropriate.
- there is new collapse of the right upper lobe with superior retraction of the major fissure, **likely** due to bronchial <finding> by right hilar adenopathy as seen on ct.
- paratracheal opacity in the upper thorax, **likely** secondary to <finding> seen on chest ct from, in conjunction with mediastinal nodes also seen on that study.

Phrase 2: might.

Example sentences:

- these findings **might** be consistent with multifocal <finding> or pneumonia with at least partial atelectasis of the left lower lobe.
- there is new left retrocardiac opacity that **might** reflect small area of <finding>/aspiration.
- there is also left mid lung opacity which is new and **might** reflect additional focus of <finding> as well.
- the differential diagnosis **might** include <finding> as previously suggested as well as potentially sarcoidosis.
- although it **might** reflect <finding>, it should also be followed to exclude the possibility of developing infectious process.

12. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

likely

might

Phrase 1: differential.

Example sentences:

- **differential** for these lesions includes <finding> and cryptogenic organizing pneumonia.
- **differential** includes nipple shadow, <finding>, or pulmonary parenchymal nodule.
- in the appropriate clinical setting, the **differential** would include a <finding>.
- **differential** would include infectious processes in the proper clinical setting or <finding>.
- **differential** includes <finding>, osseous lesion, or pulmonary parenchymal nodule.

Phrase 2: may be.

Example sentences:

- there **may be** a small left <finding>.
- there **may be** a very small new right <finding>.
- the <finding> appears slightly widened, but this **may be** projectional.
- there **may be** very minimal left basilar linear <finding>.
- opacification at the right base persists and **may be** a <finding>.

13. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

- differential
 may be

Phrase 1: suspected.

Example sentences:

- given the clinical presentation, <finding> must be **suspected**.
- the **suspected** area of <finding> at the right base laterally is barely perceptible at this time.
- **suspected** <finding>.
- calcified pleural <finding> are **suspected**.
- while these could be due to impart atelectasis, underlying <finding> or infection is also **suspected**.

Phrase 2: could be due to.

Example sentences:

- homogeneous opacification of the right lower hemithorax medially **could be due to** either <finding> in the right lower lobe or posteriorly layering pleural effusion, best evaluated with an upright chest radiograph when feasible.
- more discrete consolidation in the right lower lung, where there is also a clear atelectasis, and in the infrahilar left lower lobe **could be due to** concurrent <finding>.
- opacification of the right upper lung **could be due to** asymmetric <finding>, scapula projecting over the lung or in the appropriate clinical setting pneumonia.
- subsegmental atelectasis in the right middle lobe is new and **could be due to** bronchial narrowing from <finding>.
- homogeneous opacification of the right lower hemithorax medially **could be due to** either consolidation in the right lower lobe or posteriorly layering <finding>, best evaluated with an upright chest radiograph when feasible.

14. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

suspected

could be due to

Phrase 1: cannot be excluded.

Example sentences:

- since the prior examination, there is increased apparent lucency demonstrated in the left aspect of the aortic knob, that though may be projectional, <finding> **cannot be excluded**.
- <finding> **cannot be excluded**.
- likely right lower lobe atelectasis, although a very early <finding> **cannot be excluded**.
- given the multiple attempts to adjust the dobbhoff tube, the bibasilar opacities and the left perihilar opacity may reflect aspiration, but <finding> **cannot be excluded** and should be closely followed.
- persistent bibasilar airspace opacities could reflect compressive atelectasis but <finding> or aspiration **cannot be excluded**.

Phrase 2: difficult to exclude.

Example sentences:

- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- there is slight blunting of both costophrenic angles, felt most likely be due to overlying soft tissues, but a trace <finding> be **difficult to exclude**.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- developing <finding> is **difficult to exclude**, however.
- in the appropriate setting, the possibility of supervening <finding> would be **difficult to exclude** given the substrate of diffuse pulmonary disease.

15. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

cannot be excluded

difficult to exclude

Phrase 1: could be.

Example sentences:

- these have slightly changed their appearance and still **could be** due to either volume loss or <finding>.
- consolidation in the left lower lobe **could be** <finding> or pneumonia.
- ap chest compared to : there is greater consolidation at the right lung base today, which **could be** <finding> worsening in the setting of persistent moderate right pleural effusion or worsening pneumonia.
- re-accumulation of small right pleural effusion with opacity at the right base, with non-specific consolidation at right lung base which **could be** <finding>.
- bibasilar opacities **could be** in part explained by small pleural effusion and <finding>.

Phrase 2: appears.

Example sentences:

- the <finding> **appears** relatively clear.
- <finding> **appears** mildly enlarged but unchanged.
- <finding> **appears** engorged.
- the <finding> **appears** better aerated, however.
- the <finding> **appears** enlarged.

16. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could be

appears

Phrase 1: difficult to exclude.

Example sentences:

- it is **difficult to exclude** small <finding>s but no definite <finding> is seen.
- since the prior exam, there is increased opacity at the right lung base which could represent a combination of atelectasis and effusion, though underlying <finding> is **difficult to exclude** in the correct clinical setting.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- mild <finding> is **difficult to exclude** in the correct clinical setting.
- no definite focal <finding> is seen, although a small retrocardiac <finding> is **difficult to exclude**.

Phrase 2: possible.

Example sentences:

- **possible** mild <finding>.
- **possible** destructive <finding>, anterior aspect, right fifth rib is without correlation on recent abdomen ct.
- **possible** mild <finding>.
- a **possible** left <finding> and atelectasis obscure the left cardiac and hemidiaphragmatic contours more than the prior day.
- bibasilar atelectasis with **possible** trace bilateral <finding>.

17. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

difficult to exclude

possible

Phrase 1: consistent with.

Example sentences:

- there is enlargement of the cardiac silhouette with engorgement of indistinct pulmonary vessels **consistent with** some elevated <finding>.
- increasing opacities in the left lower lobe laterally are most likely **consistent with** <finding>.
- this is **consistent with** worsening inflammatory or <finding>.
- no change in the appearance of the retrocardiac opacification **consistent with** substantial volume loss or <finding> in the left lower lobe.
- increasing opacities in the lower lobes, left greater than right are **consistent with** worsening <finding>, aspiration cannot be totally excluded.

Phrase 2: suggestive of.

Example sentences:

- calcified diaphragmatic plaques are seen **suggestive of** prior <finding>.
- in addition, there is blunting of the right costophrenic sinus, potentially **suggestive of** a new small <finding>.
- findings **suggestive of** <finding>.
- there is mild cephalization of the pulmonary vasculature which is **suggestive of** increased <finding>.
- a new heterogeneous opacity is seen in the retrocardiac posterior left lower lobe **suggestive of** early <finding>.

18. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

consistent with

suggestive of

Phrase 1: possibility.

Example sentences:

- there is right upper lobe opacity, less pronounced than on the prior study but still present and might reflect area of scarring, although pulmonary <finding> not seen on the chest ct due to obscuration by the consolidations might be a **possibility** and should be followed in three months with chest radiograph.
- the **possibility** of developing <finding> is not entirely excluded, however, and short-term followup radiographs could be considered if symptoms were to persist or worsen.
- this could reflect additional pleural fluid, though in the appropriate clinical setting, the **possibility** of supervening <finding> would have to be considered.
- in view of the multiple traumas, the **possibility** of <finding> would have to be considered if diuretic therapy is insufficient to cause clearing of the radiographic findings.
- although this could represent severe pulmonary edema, the **possibility** of supervening <finding> or even developing ards must be considered.

Phrase 2: possibly.

Example sentences:

- there is **possibly** increased <finding> of the right lower lung, which may represent mild edema.
- there is **possibly** a small left-sided <finding>.
- left basilar opacity **possibly** due to pneumonia, <finding>, atelectasis or a combination of the above.
- a right lateral pleural thickening which may represent fluid or **possibly** involvement to the patients known <finding>.
- right lower lobe opacity is worrisome for consolidation, **possibly** due to <finding>.

19. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

possibility

possibly

Phrase 1: possibility.

Example sentences:

- the overall discordancy raises **possibility** of <finding>.
- the **possibility** of developing <finding> is not entirely excluded, however, and short-term followup radiographs could be considered if symptoms were to persist or worsen.
- although it might reflect summation of shadows, it should also be followed to exclude the **possibility** of developing <finding>.
- depending on clinical circumstances, the **possibility** of <finding> could also be considered.
- left lower lobe linear opacities and small right lower lobe opacities most likely represent atelectasis but attention to this area to exclude the **possibility** of developing <finding> is recommended.

Phrase 2: may reflect.

Example sentences:

- residual left upper lobe stellate opacity **may reflect** <finding> after pneumonia.
- minimally increased <finding> of the right lower lung **may reflect** mild edema superimposed on chronic severe interstitial lung disease.
- patchy opacities in the lung bases **may reflect** <finding>, but infection particularly in the left lung base cannot be completely excluded.
- mediastinal lucencies concerning for pneumomediastinum subcutaneous emphysema subdiaphragmatic free air, all new compared to prior study, and in the setting of recent surgery **may reflect** air <finding> along the fascial planes.
- in the right lung base is a small nodule measuring 13 mm which **may reflect** a <finding> or alternatively a pulmonary parenchymal nodule or osseous lesion.

20. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

possibility

may reflect

Phrase 1: may represent.

Example sentences:

- in that location, there are linear interstitial opacities likely from fibrosis from scarring in that area or **may represent** <finding>.
- vague bibasilar opacities, which **may represent** <finding> in the appropriate clinical setting.
- slightly increased opacity at the right base **may represent** <finding> however early consolidation cannot be excluded.
- slightly decreased pulmonary edema compared to most recent study, however right upper and lower lobe parenchymal opacities are more prominent and **may represent** <finding>.
- this **may represent** right lower lobe <finding>, however infectious process or asymmetric edema cannot be excluded.

Phrase 2: might.

Example sentences:

- there is also left mid lung <finding> which is new and **might** reflect additional focus of infection as well.
- there is right upper lobe opacity, less pronounced than on the prior study but still present and **might** reflect area of <finding>, although pulmonary nodule not seen on the chest ct due to obscuration by the consolidations **might** be a possibility and should be followed in three months with chest radiograph.
- still present right basal opacity **might** reflect the residua as well as a combination of <finding> with atelectasis.
- there is slight interval increase in the apical collection of the fluid that potentially **might** reflect accumulation of pleural effusion versus <finding>.
- this **might** potentially represent <finding>, but slowly progressing infectious process in this location cannot be excluded.

21. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

may represent

might

Phrase 1: could.

Example sentences:

- as on the prior study, there is some poor definition of the right heart border that **could** well represent <finding> of vessels.
- lower lung opacities which **could** represent atelectasis versus <finding>.
- new bibasilar opacities **could** represent atelectasis, <finding> or pneumonia.
- bibasilar opacities are larger and **could** reflect atelectasis or an <finding>.
- there is more internal debris in the large cavitary lesions in both upper lobes, which **could** be retained <finding>.

Phrase 2: cannot be entirely excluded.

Example sentences:

- no definitive evidence of <finding> is present, but it **cannot be entirely excluded** and reassessment of the patient after diuresis is recommended.
- left base opacity likely represents combination of pleural effusion and atelectasis although underlying <finding> **cannot be entirely excluded** in the appropriate clinical setting.
- these findings may reflect moderate-to-severe pulmonary edema, though bilateral <finding> **cannot be entirely excluded**.
- left lung opacity most likely represents atelectasis, although an early developing <finding> **cannot be entirely excluded**.
- there are subtle patchy opacities at both lung bases which may represent atelectasis in the setting of somewhat diminished lung volumes, although an early <finding> **cannot be entirely excluded**.

22. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could

cannot be entirely excluded

Phrase 1: suggest.

Example sentences:

- in the remainder of the lungs, in the upper lobes, there are no findings to **suggest** pneumonia or <finding>.
- <finding> lungs **suggest** chronic obstructive pulmonary disease.
- no focal airspace consolidation is seen to **suggest** an acute <finding>.
- interstitial markings are prominent, **suggest** possible mild <finding>.
- mild prominence of the hila **suggest** central pulmonary vascular engorgement with mild <finding>.

Phrase 2: may represent.

Example sentences:

- slightly increased opacity at the right base **may represent** <finding> however early consolidation cannot be excluded.
- there are subtle patchy opacities at both lung bases which **may represent** <finding> in the setting of somewhat diminished lung volumes, although an early pneumonia cannot be entirely excluded.
- subtle retrocardiac linear density **may represent** focal areas of <finding> as this appears unchanged from prior exam.
- hazy opacification of the bilateral lungs **may represent** mild <finding>.
- new left upper lobe opacity which **may represent** a developing <finding> in the appropriate clinical setting.

23. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

suggest

may represent

Phrase 1: could be.

Example sentences:

- new consolidation at the base the left lung **could be** either atelectasis or <finding>, accompanied by stable small left pleural effusion.
- this **could be** either <finding> in the left upper lobe or fissural pleural effusion.
- there has been a disproportional increase in caliber of the mediastinum, which **could be** due to <finding> or vascular engorgement due to cardiac tamponade.
- there has been an increase in pulmonary vascular plethora and mild interstitial abnormality, **could be** early <finding>, but there is no evidence of pleural or pericardial effusion.
- a large reticulated opacity projecting over the right mid lung **could be** unusual atelectasis or bronchiectasis or even a pleural <finding> present in.

Phrase 2: concerning for.

Example sentences:

- new opacification of both lower lobes despite no change in lung volumes compared to the prior study is **concerning for** <finding>.
- mediastinal lucencies **concerning for** <finding> subcutaneous emphysema subdiaphragmatic free air, all new compared to prior study, and in the setting of recent surgery may reflect air dissecting along the fascial planes.
- persistent right middle lobe heterogeneous opacity is **concerning for** <finding>, although pneumonia could have a similar appearance.
- bilateral lower lung peribronchial opacities, new since, are **concerning for** an <finding>.
- left upper lobe opacification with mild volume loss **concerning for** <finding> and possibly post-obstructive pneumonitis associated with a new central mass, radiation stricture, or mucus plug.

24. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could be

concerning for

Phrase 1: might.

Example sentences:

- atelectasis at the base of the left could be due partially to chest cage deformity, and there **might** be a small left <finding>.
- the pre-existing <finding> **might** have mildly improved, there is increased retrocardiac and right basal atelectasis.
- still present right basal opacity **might** reflect the residua as well as a combination of pleural effusion with <finding>.
- ct scanning, if feasible, would certainly confirm if the lungs are clear, but in the absence of a baseline study it **might** be difficult to distinguish <finding> from pneumonia.
- these findings **might** be consistent with multifocal aspiration or <finding> with at least partial atelectasis of the left lower lobe.

Phrase 2: could reflect.

Example sentences:

- mild cephalization which **could reflect** mild <finding>
- again this **could reflect** asymmetric <finding>, though pulmonary infection or hemorrhage is probably more likely.
- patchy opacities in the right upper lobe in the right mid and lower lung are unchanged, which **could reflect** resolving <finding>, although pneumonia cannot be entirely excluded.
- this **could reflect** <finding>, but infection cannot be completely excluded.
- the findings **could reflect** some combination of widespread pneumonia, severe pulmonary edema, an even <finding>.

25. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

might

could reflect

Phrase 1: more likely.

Example sentences:

- the localized nature of this process **more likely** represents hemorrhage or <finding> rather than reexpansion edema.
- the localized nature of this process **more likely** represents <finding> or infectious process rather than reexpansion edema.
- large triangular opacity in the left mid lung is **more likely** malignant or <finding> than traumatic.
- small right <finding> or **more likely** right pleural scarring, unchanged.
- the localized nature of this process **more likely** represents <finding> or infectious process rather than reexpansion edema.

Phrase 2: suggests.

Example sentences:

- blunting of both costophrenic angles **suggests** small pleural effusions along with predominantly retrocardiac <finding>.
- blunting of the right costophrenic sulcus **suggests** that there may be a trace <finding>.
- band-like opacity in the left mid lung **suggests** minor <finding> or scarring.
- this **suggests** the presence of <finding>.
- right hilar and perihilar opacification appears unchanged and **suggests** a site of treated <finding>.

26. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

more likely

suggests

Phrase 1: differential.

Example sentences:

- interval appearance of patchy opacity at the left base could represent early pneumonia, although <finding> or patchy atelectasis would also be in the **differential**.
- **differential** would include infectious processes in the proper clinical setting or <finding>.
- **differential** for these lesions includes amiodarone toxicity and <finding>.
- **differential** diagnosis includes atypical pneumonia and <finding>.
- in the appropriate clinical setting, the **differential** would include a <finding>.

Phrase 2: appear.

Example sentences:

- the <finding> **appear** unremarkable.
- <finding> **appear** aligned and intact.
- <finding> **appear** grossly intact.
- <finding> **appear** intact.
- the <finding> **appear** demineralized.

27. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

differential

appear

Phrase 1: if any.

Example sentences:

- **if any**, there is a small right <finding>.
- <finding> are small **if any**.
- small right <finding>, **if any**, is unchanged.
- <finding>, **if any**, is minimal bilaterally.
- <finding> is minimal **if any**.

Phrase 2: not excluded.

Example sentences:

- left base opacity may be due to combination of pleural effusion and atelectasis, although <finding> is **not excluded**.
- bibasilar opacities are seen, which most likely represent atelectasis, although aspiration or <finding> are **not excluded** in the appropriate clinical setting.
- mild pulmonary edema with increased size of small to moderate right pleural effusion and right basilar opacity, possibly reflecting atelectasis but <finding> is **not excluded**.
- old-appearing rib deformities on the left may relate to prior fractures, <finding> **not excluded**, although better evaluated on ct.
- there may be slight prominence of the main pulmonary artery, which may be in part related to patient positioning, however, underlying <finding> is **not excluded**.

28. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

if any

not excluded

Phrase 1: worrisome for.

Example sentences:

- new left basilar opacity **worrysome for** <finding>.
- there is a patchy left basilar opacity obscuring the cardiac border and apex of the left hemidiaphragm, **worrysome for** <finding>.
- there is a confluent right basilar opacity **worrysome for** <finding>.
- increasing right basilar opacity **worrysome for** <finding>.
- increasing opacity in the right lower lung zone is **worrysome for** <finding>

Phrase 2: or.

Example sentences:

- the opacity could represent both pneumonia **or** <finding>.
- additional nonspecific patchy opacity at the periphery of the right lung base could reflect focal <finding>, **or** an additional site of infection.
- patchy opacities in the lower lobes may reflect areas of developing <finding> **or** atelectasis.
- diffuse interstitial opacities in the right lung and very mild in left lung base, in view of hist**or**y most likely reflect lung <finding> **or** asymmetric pulmonary edema.
- persistent opacities within the right upper lobe, left lung base and left perihilar region are redemonstrated on a background of chronic interstitial lung disease which on the pri**or** chest ct was thought to reflect up **or** <finding>.

29. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

worrisome for

or

Phrase 1: might.

Example sentences:

- reevaluation of the patient in four weeks with chest radiograph is recommended for documentation of complete resolution. if clinically warranted, <finding> with chest ct **might** be considered.
- these findings **might** be consistent with multifocal aspiration or <finding> with at least partial atelectasis of the left lower lobe.
- there is slight interval increase in the apical collection of the fluid that potentially **might** reflect accumulation of <finding> versus bleeding.
- there is also left mid lung <finding> which is new and **might** reflect additional focus of infection as well.
- the differential diagnosis **might** include <finding> as previously suggested as well as potentially sarcoidosis.

Phrase 2: less likely.

Example sentences:

- these new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** infection or <finding>.
- frontal radiographs shows diffuse bilateral lung opacities, most pronounced in the left upper lobe in the perihilar region likely due to chf, **less likely** multifocal <finding>.
- interval decrease in size of a right pleural effusion with residual patchy basilar opacity, which could reflect residual compressive atelectasis, reexpansion pulmonary edema, contusion, and **less likely** <finding>.
- overall, however, there is a more focal airspace opacity in the left mid and lower lung, which may reflect asymmetric pulmonary edema or an infectious process, **less likely** <finding>.
- vague nodular opacity projecting over the right lower lung represents atelectasis, **less likely** <finding>.

30. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

might

less likely

Phrase 1: could reflect.

Example sentences:

- mild indistinctness of pulmonary vessels **could reflect** some elevated <finding>.
- unchanged right upper lung pulmonary opacities which **could reflect** <finding>.
- the pulmonary hilae are slightly prominent with a tapered configuration, which **could reflect** <finding>.
- additional nonspecific patchy opacity at the periphery of the right lung base **could reflect** focal atelectasis, or an additional site of <finding>.
- mild cephalization which **could reflect** mild <finding>

Phrase 2: and/or.

Example sentences:

- there is some blunting of the left costophrenic angle, which may reflect pleural thickening **and/or** a small <finding>.
- as before, the lungs are hyperinflated, with flattening of the hemidiaphragms and enlargement of the retrosternal airspace, consistent with asthma **and/or** <finding>.
- increased retrocardiac density and the left lower lung opacity, which likely represents a combination of <finding> **and/or** consolidation has minimally worsened since.
- small right effusion and hazy opacity in right lung, with right base collapse **and/or** <finding>.
- there is hazy opacity at the left lung base, consistent with a small left effusion and underlying <finding> **and/or** consolidation.

31. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could reflect

and/or

Phrase 1: and/or.

Example sentences:

- increased right effusion with underlying collapse **and/or** <finding>.
- relative enlargement of the cardiac silhouette compared to suggests some increase in moderate <finding> **and/or** pericardial effusion.
- there is some blunting of the left costophrenic angle, which may reflect pleural thickening **and/or** a small <finding>.
- 1 small left effusion with underlying collapse **and/or** <finding>.
- bibasilar opacities may in part relate to atelectasis, although underlying infection, pneumonia **and/or** <finding> is of concern in the appropriate clinical setting.

Phrase 2: differential.

Example sentences:

- **differential** diagnosis includes atypical pneumonia and <finding>.
- **differential** for these lesions includes amiodarone toxicity and <finding>.
- **differential** would includes infectious processes in the proper clinical setting or <finding>.
- **differential** for these lesions includes <finding> and cryptogenic organizing pneumonia.
- **differential** includes <finding>, osseous lesion, or pulmonary parenchymal nodule.

32. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

differential

and/or

Phrase 1: less likely.

Example sentences:

- minimal blunting of the right costophrenic sulcus is more suggestive of similar slight atelectatic change, **less likely** persistent trace <finding>.
- these new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** <finding> or edema.
- subtle opacity at the right lung base most likely represents atelectasis, **less likely** <finding>.
- there is mild opacity obscuring the left heart border which is most likely atelectasis and **less likely** attributable to <finding>.
- these new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** infection or <finding>.

Phrase 2: likely.

Example sentences:

- opacity projecting over the right mid to lower lung is **likely** due to <finding> with overlying atelectasis, underlying consolidation cannot be excluded.
- increased opacity at the right lung base, **likely** a combination of <finding> and atelectasis, though underlying pneumonia difficult to exclude.
- opacity projecting over the right mid to lower lung is **likely** due to pleural effusion with overlying <finding>, underlying consolidation cannot be excluded.
- opacification in the left lung base **likely** reflects a combination of a moderate-to-large <finding> and adjacent atelectasis.
- in comparison to the prior study, there has been no significant interval change in the left hilar mass with volume loss and opacification in left upper lobe, which **likely** represents postobstructive pneumonia/<finding>.

33. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

less likely

likely

Phrase 1: possibly.

Example sentences:

- there is **possibly** increased <finding> of the right lower lung, which may represent mild edema.
- more focal patchy right upper lobe and left infrahilar opacities of uncertain significance but **possibly** due to coinciding <finding> or scarring.
- very subtle hazy opacities in the right lower lobe are new compared to the prior study from, **possibly** <finding> or a very early pneumonia.
- there is persistent if not increased streaky retrocardiac opacities, **possibly** related to <finding>.
- the cardiac and mediastinal silhouettes are similar with the <finding> **possibly** slightly less prominent as compared to the prior study.

Phrase 2: less likely.

Example sentences:

- overall, however, there is a more focal airspace opacity in the left mid and lower lung, which may reflect asymmetric pulmonary edema or an infectious process, **less likely** <finding>.
- frontal radiographs shows diffuse bilateral lung opacities, most pronounced in the left upper lobe in the perihilar region likely due to chf, **less likely** multifocal <finding>.
- these new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** <finding> or edema.
- interval decrease in size of a right pleural effusion with residual patchy basilar opacity, which could reflect residual compressive atelectasis, reexpansion pulmonary edema, contusion, and **less likely** <finding>.
- new nodular opacity in the right upper lobe, concerning for metastatic disease, **less likely** <finding> in this patient with known history of rcc.

34. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

possibly

less likely

Phrase 1: difficult to exclude.

Example sentences:

- developing <finding> is **difficult to exclude**, however.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.
- since the prior exam, there is increased opacity at the right lung base which could represent a combination of atelectasis and effusion, though underlying <finding> is **difficult to exclude** in the correct clinical setting.
- no large <finding> however, trace bilateral <finding>s **difficult to exclude**.

Phrase 2: may be due to.

Example sentences:

- slight blunting of the bilateral costophrenic angles **may be due to** small bilateral <finding>.
- there is <finding> of an upper lumbar vertebral body which may be increased somewhat, although the apparent difference **may be due to** differences in orientation.
- left base retrocardiac opacity **may be due to** combination of pleural effusion and <finding> however, underlying consolidation is not excluded.
- there is slight increase in opacity at the right lung base which **may be due to** <finding>, although the appropriate clinical setting, early aspiration or pneumonia are not excluded.
- patchy right lower lobe opacity **may be due to** <finding> or aspiration.

35. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

- difficult to exclude
 may be due to

Phrase 1: could be due to.

Example sentences:

- homogeneous opacification of the right lower hemithorax medially **could be due to** either consolidation in the right lower lobe or posteriorly layering <finding>, best evaluated with an upright chest radiograph when feasible.
- there is possible minimal increased left lung hazy opacity which **could be due to** <finding>.
- severe opacification of the left lung has a distinctly nodular quality which **could be due to** collections of <finding> in bullae, or multiple septic emboli.
- subtle patchy right base opacity is seen, which **could be due to** <finding> or aspiration.
- superior mediastinum appears widened, which **could be due to** thyroïdal <finding> as seen on prior ct.

Phrase 2: worrisome for.

Example sentences:

- multifocal opacities **worrisome for** <finding> superimposed on severe underlying interstitial lung disease although recent prior radiographs are not available for comparison and progression of chronic lung disease could be considered as an alternative, acute superimposed <finding> seems most likely.
- diffusely increased opacity throughout the right lung is related to a chronic loculated right effusion and multifocal opacities **worrisome for** <finding>.
- widespread right middle lobe opacity **worrisome for** <finding>, but a post-obstructive pneumonitis should be considered, noting abnormal contours of the right upper mediastinum and right hilum.
- there is a patchy left basilar opacity obscuring the cardiac border and apex of the left hemidiaphragm, **worrisome for** <finding>.
- severe cardiomegaly, unchanged from four hours prior and **worrisome for** underlying <finding>.

36. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could be due to

worrisome for

Phrase 1: concerning for.

Example sentences:

- right lower lung consolidation **concerning for** <finding>, new since, is unchanged.
- more conspicuous left midlung opacity **concerning for** developing <finding> or septic embolus.
- what has varied is the radiodensity of heterogeneous opacification at both lung bases, more pronounced today than earlier, and **concerning for** bibasilar <finding>, particularly due to aspiration.
- an ill-defined opacity is seen in posterior lower lung in the retrocardiac region overlying the lower spine and is **concerning for** <finding>.
- stable cavitary lesions but worsening peribronchial opacities **concerning for** worsening airways-related <finding>.

Phrase 2: difficult to exclude.

Example sentences:

- patchy streaky opacity in the right lung base likely reflects atelectasis though <finding> is **difficult to exclude**.
- developing <finding> is **difficult to exclude**, however.
- no definite focal <finding> is seen, although a small retrocardiac <finding> is **difficult to exclude**.
- since the prior exam, there is increased opacity at the right lung base which could represent a combination of atelectasis and effusion, though underlying <finding> is **difficult to exclude** in the correct clinical setting.
- increased opacity at the right lung base, likely a combination of effusion and atelectasis, though underlying <finding> **difficult to exclude**.

37. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

concerning for

difficult to exclude

Phrase 1: probably.

Example sentences:

- ap chest compared to : opacification at both lung bases is **probably** a combination of persistent <finding>, moderate on the right and moderate to severe on the left.
- a linear opacity in the left mid lung is **probably** <finding> from prior pneumonia demonstrated in this region.
- <finding> is **probably** top normal, but difficult to assess given severe chest cage deformity by virtue of scoliosis.
- the patient is status post sternotomy and **probably** <finding>.
- postoperatively, left lower lobe consolidation is **probably** due to <finding>, stable since.

Phrase 2: probable.

Example sentences:

- low lung volumes with **probable** bibasilar <finding>.
- **probable** small left <finding>.
- there has been interval placement of **probable** <finding> in the mid thoracic spine.
- improving right upper lobe consolidation stable appearance of the left lower lobe consolidation with **probable** trace <finding> on the left.
- **probable** layering right <finding>.

38. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

probably

probable

Phrase 1: if any.

Example sentences:

- bilateral <finding>, **if any**, are minimal and unchanged.
- <finding> are minimal, **if any**.
- the lungs are clear with trace, **if any**, basilar <finding>.
- <finding> is minimal **if any**.
- <finding>, **if any**, are small.

Phrase 2: appears to be.

Example sentences:

- part of the right <finding> **appears to be** in the fissure.
- the <finding> is not well assessed, but **appears to be** at least mildly enlarged.
- there **appears to be** some increasing <finding> of the right hemithorax, which would be consistent with some increasing pleural effusion.
- however, the <finding> **appears to be** above the esophagogastric junction.
- some <finding> **appears to be** present suggesting mild failure.

39. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

if any

appears to be

Phrase 1: could represent.

Example sentences:

- persistent probable left lower lobe posterior opacity which **could represent** atelectasis or a component of <finding>, to be clinically correlated.
- faint bibasilar opacities are seen, particularly in the retrocardiac region which are nonspecific and given low lung volumes **could represent** <finding>.
- lower lung opacities which **could represent** <finding> versus pneumonia.
- opacity at right lung base which **could represent** patchy <finding>, pneumonia or aspiration.
- there is an area of increased opacification in the right perihilar region, which **could represent** a new region of <finding>.

Phrase 2: suggesting.

Example sentences:

- study yesterday, retrocardiac opacity and small opacity in right lower medial and infrahilar region has improved **suggesting** it was <finding> or aspiration.
- on the right, there is apparent elevation of the right hemidiaphragm with lateral peaking **suggesting** the presence of a subpulmonic <finding>.
- there is improvement in the pulmonary edema with persistence of mid right lung hazy opacification laterally, possibly **suggesting** <finding> in this region.
- the lungs are hyperinflated **suggesting** the presence of <finding>.
- streaky lingular opacity **suggesting** minor <finding> or scarring appears unchanged.

40. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

- could represent
 suggesting

Phrase 1: could.

Example sentences:

- there has been a disproportional increase in caliber of the mediastinum, which **could** be due to bleeding or vascular <finding> due to cardiac tamponade.
- ct **could** be considered for further <finding>. this was discussed with dr at noon by dr on via phone.
- an area of focal <finding> projected over the left mid lung **could** represent an additional area of consolidation.
- it is unclear whether this **could** merely reflect change in degree of obliquity of the <finding> or whether there is a reason to suggest increased fluid within the pleural space.
- prominence of the left hilum appears slightly less confluent as compared to the prior study, but otherwise persists again, underlying <finding> is not entirely excluded, and **could** be further assessed for on nonurgent chest ct.

Phrase 2: cannot be excluded.

Example sentences:

- left infrahilar and left basilar opacity may relate to vascular crowding, although <finding> **cannot be excluded** in the appropriate clinical setting.
- bilateral <finding> **cannot be excluded**, mild.
- as compared to the previous radiograph, severe cardiomegaly persists and the presence of a left <finding> **cannot be excluded**.
- however, <finding> or pneumonia **cannot be excluded**.
- <finding> **cannot be excluded**.

41. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

could

cannot be excluded

Phrase 1: potentially.

Example sentences:

- blunting of the left lateral costophrenic angle is again seen, **potentially** due to additional atelectasis or **potentially** small <finding>.
- there is slight interval increase in the apical collection of the fluid that **potentially** might reflect accumulation of pleural effusion versus <finding>.
- the differential diagnosis might include cryptogenic organizing pneumonia as previously suggested as well as **potentially** <finding>.
- in addition, there is increasing parenchymal opacity at the left lung base, **potentially** reflecting developing <finding>.
- questionable <finding> in the left lower lobe **potentially** can be suspected, followup with chest radiograph is recommended to establish complete resolution of this still present asymmetric left lower lobe opacity.

Phrase 2: either.

Example sentences:

- ap chest compared to : bronchial wall thickening or peribronchial infiltration in the lower lungs where most pronounced bronchiectasis is have worsened since consistent **either** with a flare of bronchiectasis or development of peribronchial <finding>.
- new consolidation at the base the left lung could be **either** <finding> or pneumonia, accompanied by stable small left pleural effusion.
- the lungs demonstrate improving consolidation of the retrocardiac space, **either** representing improving atelectasis or <finding>.
- these have slightly changed their appearance and still could be due to **either** <finding> or infectious infiltrate.
- left lower lobe has been consistently consolidated and obliteration of the bronchial lumen has been attributed to **either** aspirate or <finding>.

42. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

potentially

either

Phrase 1: not excluded.

Example sentences:

- bibasilar opacities are seen, which most likely represent atelectasis, although <finding> or infection are **not excluded** in the appropriate clinical setting.
- old-appearing rib deformities on the left may relate to prior fractures, <finding> **not excluded**, although better evaluated on ct.
- possible 09 cm nodular opacity along the superior aspect of the right lower lung opacity, could relate to consolidation, but pulmonary <finding> **not excluded**.
- mild pulmonary edema with increased size of small to moderate right pleural effusion and right basilar opacity, possibly reflecting atelectasis but <finding> is **not excluded**.
- increased opacity projecting over the right hemi thorax likely due to increased right pleural effusion with overlying atelectasis, underlying <finding> **not excluded**.

Phrase 2: could reflect.

Example sentences:

- this **could reflect** <finding>, but infection cannot be completely excluded.
- the findings **could reflect** some combination of widespread pneumonia, severe <finding>, an even ards.
- interval decrease in size of a right pleural effusion with residual patchy basilar opacity, which **could reflect** residual compressive atelectasis, <finding>, contusion, and less likely pneumonia.
- unchanged right upper lung pulmonary opacities which **could reflect** <finding>.
- bibasilar streaky airspace <finding> **could reflect** a combination of atelectasis with chronic changes.

43. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

not excluded

could reflect

Phrase 1: versus.

Example sentences:

- slightly improved pulmonary opacities compatible with moderate pulmonary edema **versus** <finding>.
- lower lung opacities which could represent <finding> **versus** pneumonia.
- this may be due to resolving pulmonary edema **versus** atelectasis **versus** residual <finding>.
- slightly improved pulmonary opacities compatible with moderate <finding> **versus** pulmonary hemorrhage.
- there is slight interval increase in the apical collection of the fluid that potentially might reflect accumulation of pleural effusion **versus** <finding>.

Phrase 2: could be.

Example sentences:

- a triangular opacity in the region of the right pleural tube **could be** fissural <finding>.
- widened <finding> is more than it was on however, this appearance **could be** exacerbation from low lung volumes.
- new right infrahilar consolidation **could be** regional <finding> or concurrent pneumonia.
- perihilar opacification in the left **could be** <finding> but is more likely atelectasis as well.
- these have slightly changed their appearance and still **could be** due to either volume loss or <finding>.

44. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

versus

could be

Phrase 1: concerning for.

Example sentences:

- these are **concerning for** <finding>.
- compared to the scout radiograph from a torso ct from, there is increased opacity in the left lower lung, **concerning for** worsening effusion and <finding>.
- there is a new opacity in the right lower lobe **concerning for** <finding>, superimposed on preexisting patchy medial right middle lobe opacification that appears more chronic, also comparing to, although the lungs had been clear on earlier radiographs from .
- an ill-defined opacity is seen in posterior lower lung in the retrocardiac region overlying the lower spine and is **concerning for** <finding>.
- opacities have slightly worsened in the axillary portion of the right lung and also in the right lower lobe, **concerning for** <finding> in these areas.

Phrase 2: might.

Example sentences:

- the right basal opacity appears to be still present, although improved since the prior study and **might** reflect interval decrease in size of <finding>.
- these findings **might** be consistent with multifocal aspiration or <finding> with at least partial atelectasis of the left lower lobe.
- ct scanning, if feasible, would certainly confirm if the lungs are clear, but in the absence of a baseline study it **might** be difficult to distinguish atelectasis from <finding>.
- although it **might** reflect <finding>, it should also be followed to exclude the possibility of developing infectious process.
- ct scanning, if feasible, would certainly confirm if the lungs are clear, but in the absence of a baseline study it **might** be difficult to distinguish <finding> from pneumonia.

45. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

concerning for

might

Phrase 1: probable.

Example sentences:

- interval decrease in lung volumes with **probable** perihilar and mild <finding>.
- **probable** right middle lobe <finding>, better assessed on prior ct.
- **probable** bilateral <finding>.
- there is, however, **probable** small left <finding>.
- there has been interval placement of **probable** <finding> in the mid thoracic spine.

Phrase 2: appears.

Example sentences:

- the left lung is **appears** prominently <finding> -- overall, allowing for technical differences, the appearance is similar to on the left and this appearance may be accentuated by opacity on the right side.
- the <finding> **appears** more prominent as compared to the right study of but similar to.
- <finding> is not well assessed but **appears** enlarged.
- <finding> **appears** normal.
- <finding> **appears** improved.

46. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

- probable
 appears

Phrase 1: possibility.

Example sentences:

- left lower lobe linear opacities and small right lower lobe opacities most likely represent atelectasis but attention to this area to exclude the **possibility** of developing <finding> is recommended.
- exacerbation of <finding> is another **possibility**.
- the **possibility** of supervening <finding> at the right base could not be excluded.
- although this could represent severe pulmonary edema, the **possibility** of supervening <finding> or even developing ards must be considered.
- the **possibility** of supervening <finding> would be impossible to exclude on this single study, especially without a lateral view.

Phrase 2: may.

Example sentences:

- patchy opacities in the lung bases **may** reflect areas of <finding>, but infection particularly in the left lung base cannot be completely excluded.
- there is also blunting of the left costophrenic angle which **may** be due to <finding>.
- however, <finding> in the right middle lobe and more heterogeneous opacification in the right lower lobe **may** have increased since the previous study.
- new <finding> at the right base **may** represent infection or aspiration.
- in the interval from the prior examination, obscuration of the left hemidiaphragm **may** be due to <finding> and atelectasis, though a consolidation or pneumonia cannot be entirely excluded.

47. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

possibility

may

Phrase 1: not excluded.

Example sentences:

- left retrocardiac opacity is seen which may be due to combination of pleural effusion and atelectasis, although focal <finding> is **not excluded**.
- consolidation at both lung bases is probably due to worsening atelectasis but of course <finding> and large scale aspiration are **not excluded**.
- the left retrocardiac opacity and obscuration of the left hemidiaphragm is seen, may be due to pleural effusion and atelectasis although underlying <finding> **not excluded**.
- there is slight increase in opacity at the right lung base which may be due to atelectasis, although the appropriate clinical setting, <finding> or pneumonia are **not excluded**.
- bibasilar opacities are seen, which most likely represent atelectasis, although aspiration or <finding> are **not excluded** in the appropriate clinical setting.

Phrase 2: most likely.

Example sentences:

- hazy opacities involving the right middle and lower lobes **most likely** represents hemorrhage or <finding>.
- much of the prominence of interstitial markings **most likely** represents <finding>.
- small bilateral <finding> are **most likely** present.
- streaky predominantly right-sided mid and lower lung opacities are seen, **most likely** due to <finding>.
- increasing <finding> in the left lower lobe laterally are **most likely** consistent with atelectasis.

48. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

not excluded

most likely

Phrase 1: and/or.

Example sentences:

- bibasilar opacities may in part relate to atelectasis, although underlying infection, <finding> **and/or** aspiration is of concern in the appropriate clinical setting.
- there is hazy opacity at the left lung base, consistent with a small left effusion and underlying collapse **and/or** <finding>.
- pa and lateral chest compared to and : moderate cardiomegaly, enlargement of the pulmonary arteries suggesting pulmonary hypertension and hyperinflation of the lungs due to emphysema **and/or** <finding>, but not changed since at least.
- 1 copd with extensive pleural/parenchymal scarring, right effusion with underlying <finding> **and/or** consolidation, and right /infrahilar opacity are unchanged compared with.
- there is some blunting of the left costophrenic angle, which may reflect pleural thickening **and/or** a small <finding>.

Phrase 2: may reflect.

Example sentences:

- minimally increased <finding> of the right lower lung **may reflect** mild edema superimposed on chronic severe interstitial lung disease.
- residual left upper lobe stellate opacity **may reflect** <finding> after pneumonia.
- lucency of the upper lobes **may reflect** <finding>.
- blunting of the right costophrenic angle is unchanged and **may reflect** chronic <finding>.
- mediastinal lucencies concerning for pneumomediastinum <finding> subdiaphragmatic free air, all new compared to prior study, and in the setting of recent surgery **may reflect** air dissecting along the fascial planes.

49. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

and/or

may reflect

Phrase 1: not excluded.

Example sentences:

- possible 09 cm nodular opacity along the superior aspect of the right lower lung opacity, could relate to consolidation, but pulmonary <finding> **not excluded**.
- there is slight increase in opacity at the right lung base which may be due to atelectasis, although the appropriate clinical setting, <finding> or pneumonia are **not excluded**.
- the left retrocardiac opacity and obscuration of the left hemidiaphragm is seen, may be due to pleural effusion and atelectasis although underlying <finding> **not excluded**.
- there is persistent prominence of the left hilum which appears site less confluent as compared to, but more prominent as compared to chest radiograph from, underlying <finding> **not excluded**.
- bibasilar opacities are seen, which most likely represent atelectasis, although <finding> or infection are **not excluded** in the appropriate clinical setting.

Phrase 2: may reflect.

Example sentences:

- patchy opacities in the lung bases **may reflect** <finding>, but infection particularly in the left lung base cannot be completely excluded.
- streaky bibasilar airspace opacities **may reflect** areas of <finding>.
- in the right lung base is a small nodule measuring 13 mm which **may reflect** a <finding> or alternatively a pulmonary parenchymal nodule or osseous lesion.
- mediastinal lucencies concerning for pneumomediastinum <finding> subdiaphragmatic free air, all new compared to prior study, and in the setting of recent surgery **may reflect** air dissecting along the fascial planes.
- minimally increased <finding> of the right lower lung **may reflect** mild edema superimposed on chronic severe interstitial lung disease.

50. Which term expresses a higher degree of certainty that the <finding> is present? *

Mark only one oval.

not excluded

may reflect

Task 2: Assigning uncertainty levels

Thank you for completing the first task!

After we have validated the ranked set of uncertainty terms, we want to map it onto a **numerical scale, ranging from 0 to 100**. To do this, we need to fix some points on our scale, which will be used to build a mapping function that fulfills this task. Your responses to this second task will help decide these fixed points.

As above, assume there is a certainty spectrum ranging from:

"<finding> is certainly absent" (**value on the numerical scale: 0**)

to

"<finding> is certainly present" (**value on the numerical scale: 100**)

You will be given an example sentence, in which a term is used. You must assign a numerical value between 0 and 100, that places the term on a scale of "certainly absent" (0) to "certainly present" (100), as the term is used in the context of that sentence to describe the "<finding>".

What follows is an example.

--

On a scale of "certainly absent" (0) to "certainly present" (100), where would you place the term "probably", as it relates to the "<finding>" in each of the following sentences?

Sentence: "bulge in the left lower mediastinal contour is **probably** due to <finding>, but could be a paraspinal lesion."

Response: **73**

Explanation (just for your information, not asked further on): From the context of the sentence, one might infer that <finding> is close to "certainly present", though an alternative cause (paraspinal lesion) is provided, which decreases the rating to **73**.

--

You will now complete this exercise for three terms ("most likely", "if any", and "less likely"), with multiple sentences each. Please respond according to your own intuition, and keep in mind there are no right or wrong answers.

Most likely

On a scale of "certainly absent" (0) to "certainly present" (100), where would you place the term "**most likely**", as it relates to the "<finding>" in each of the following sentences? Keep in mind that your answer may differ based on the context of the sentence.

51. The heart remains stably enlarged, which **most likely** reflects <finding>, although pericardial effusion cannot be entirely excluded. *
-
52. There is a nodular opacity projecting over the lateral right lower hemithorax, **most likely** representing nipple shadow, although attention at followup once pleural effusion resolved is suggested. *
-
53. The worsening in the right lower lung although **most likely** associated with <finding>, can potentially represent interval development of right lower lobe pneumonia. *
-
54. Streaky predominantly right-sided mid and lower lung opacities are seen, **most likely** due to <finding>. *
-
55. Subtle opacity at the right lung base **most likely** represents <finding>, less likely consolidation. *
-
56. Linear vertically oriented opacity seen in previous chest radiographs appears unchanged, **most likely** represent <finding> adjacent to pleural plaques. *
-
57. Much of the prominence of interstitial markings **most likely** represents <finding>. *
-

58. There is mild opacity obscuring the left heart border which is **most likely** <finding> and less likely attributable to pneumonia. *
-

59. Paratracheal opacity **most likely** relates to enlarged <finding> seen on chest ct from, and followup recommendations per that ct remains. *
-

60. Bilateral <finding> is **most likely** present and small. *
-

If any

On a scale of "certainly absent" (0) to "certainly present" (100), where would you place the term "if any", as it relates to the "<finding>" in each of the following sentences? Keep in mind that your answer may differ based on the context of the sentence.

61. The lungs are clear with trace, **if any**, basilar <finding>. *
-

62. Small right <finding>, **if any**, is unchanged. *
-

63. <finding> is small **if any** on the left. *
-

64. Bilateral <finding>, **if any**, are minimal and unchanged. *
-

65. **if any**, there is a small right <finding>. *

Less likely

On a scale of "certainly absent" (0) to "certainly present" (100), where would you place the term "less likely", as it relates to the "<finding>" in each of the following sentences? Keep in mind that your answer may differ based on the context of the sentence.

66. These new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** infection or <finding>.*
-
67. Minimal blunting of the right costophrenic sulcus is more suggestive of similar slight atelectatic change, **less likely** persistent trace <finding>.*
-
68. Its rounded shape raises a question of cardiomyopathy and **less likely** <finding>.*
-
69. New nodular opacity in the right upper lobe, concerning for metastatic disease, **less likely** <finding> in this patient with known history of rcc.*
-
70. These new opacities have a broad differential diagnosis, could be due to exacerbation of interstitial lung disease, progression of the disease, or **less likely** <finding> or edema.*
-

71. Subtle opacity at the right lung base most likely represents atelectasis, **less likely** <finding>. *
-

72. Vague nodular opacity projecting over the right lower lung represents atelectasis, **less likely** <finding>. *
-

73. Frontal radiographs shows diffuse bilateral lung opacities, most pronounced in the left upper lobe in the perihilar region likely due to chf, **less likely** multifocal <finding>. *
-

74. There is mild opacity obscuring the left heart border which is most likely atelectasis and **less likely** attributable to <finding>. *
-

75. Overall, however, there is a more focal airspace opacity in the left mid and lower lung, which may reflect asymmetric pulmonary edema or an infectious process, **less likely** <finding>. *
-

Professional background

Thank you for completing the second task!

Finally, we have some general questions regarding your professional background.

76. What is your occupation? *

Mark only one oval.

- General practitioner
- Radiologist
- Other: _____

77. How many years of experience do you have in this occupation? *

Mark only one oval.

- 0 to 5 years
- 5 to 10 years
- 10 to 20 years
- 20 to 30 years
- 30 to 40 years
- 40+ years

Thank you!

Your responses will be used to validate our ranking of uncertainty terms. We sincerely thank you for your time and effort!

Please press "submit" to hand in your responses.

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