

Lecture 10 Quiz

⚠ This is a preview of the published version of the quiz

Started: May 12 at 1:50pm

Quiz Instructions

Question 1

1 pts

Which of the following reduces the total acquisition time?

- Larger N_{ky}
- Increasing N_{encode}
- Decreasing simultaneous multi-slice
- Longer Echo train length

Question 2

1 pts

Sequence efficiency increases with:

- More repeated averages
- Shorter data acquisition intervals
- Longer magnetization preparation intervals
- Longer data acquisition intervals

Question 3**1 pts**

Which of the following is true? Multi-echo sequences...

- ...acquire several k-space lines per excitation.
- ...decrease sequence efficiency.
- ...improve SNR of the acquired images.
- ...repeatedly acquire the same k-space line.

Question 4**1 pts**

Disadvantages of gradient echo EPI include all of the following EXCEPT:

- Off-resonance related artifacts.
- Signal decay due to T2* effects.
- Fast perfusion sensitive imaging.
- Chemical shift sensitivity and artifacts.

Question 5**1 pts**

Advantages of spin echo EPI sequences include all of the following EXCEPT:

- Relative insensitivity to T2-decay.
- Fast diffusion weighted imaging.
- Fast T2-weighted imaging.

- Relative insensitivity to off-resonance.

Question 6

1 pts

Each of the following is a common artifact in EPI EXCEPT:

- Chemical shift artifacts in the phase encode direction
- Chemical shift artifacts in the frequency encode direction
- Distortion due to B0 inhomogeneity
- Ghosting artifacts from echo mis-alignment

Question 7

1 pts

Geometric distortion in EPI can be reduced by all of the following EXCEPT:

- Parallel imaging
- Reducing the echo train length
- Shimming to improve B0
- Refocuses pulses

Question 8

1 pts

Chemical shift artifacts in EPI are problematic because:

Chemical shift frequency is higher for EPI

Echo spacing very short

Readout bandwidth is very high

Phase encode bandwidth is very low

Question 9

1 pts

Decreasing echo spacing will:

Decrease EPI distortion

Increase field-of-view

Increase EPI distortion

Decrease field-of-view

Question 10

1 pts

Increasing the phase encode field-of-view will:

Increase EPI distortion

Decrease echo spacing

Decrease EPI distortion

Increase echo spacing

Not saved

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