

Lecture 14 Quiz

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

Started: May 26 at 10:49pm

Quiz Instructions

Please select the best answer

Question 1

1 pts

Magnetization preparation is used

- usually in combination with an efficient acquisition
- all of these
- to suppress unwanted signal in images
- to enhance the contrast of an image

Question 2

1 pts

Two common ways to null magnetization are

- inversion and relaxation
- inversion and saturation
- saturation and relaxation
- inversion and precession

Question 3

1 pts

Four ways to remove fat from an image are

- fat suppression, STIR, CEST and water-only excitation
- CEST, STIR, Dixon and water-only excitation
- fat suppression, STIR, CEST and water-only excitation
- fat suppression, STIR, Dixon and water-only excitation

Question 4

1 pts

An advantage of saturation compared to inversion for nulling tissue is

- it is immune to B0 variations
- it is resilient to B1+ variations
- it may work over a wide range of T1 times
- it can easily be implemented with adiabatic pulses

Question 5

1 pts

An acquisition sequence that has high signal efficiency but sensitivity to B0 variations is

- gradient-spoiled
- RF-spoiled

balanced SSFP

spin-echo train

Question 6

1 pts

A common approach to suppressing the fluids in the brain is

FLAIR, using an inversion pulse followed by short TI

STIR, using an inversion pulse with short TI

FLAIR, using an inversion pulse followed by long TI

FLAIR, using a saturation pulse

Question 7

1 pts

In spin-echo train sequences, the signal from fluids can be enhanced by using

STIR as a preparation

Fast-recovery or driven equilibrium tip-up

FLAIR as a preparation

Dixon techniques

Question 8

1 pts

Magnetization transfer contrast is achieved by

- saturation at a specific frequency to suppress exchanging water
- saturation of short-T2 bound water, which exchanges with tissue, attenuating the signal
- saturation by decreasing the number of slices in spin-echo trains
- saturation of free water, which exchanges with bound water, to suppress signal

Question 9

1 pts

T2-prep enhanced T2 contrast, typically by using

- a 90 pulse with a long echo train of 180 pulses
- a 90, -90 and one or more 180 pulses
- a 90 and -90 pulse
- none of these

Question 10

1 pts

Inverting the volume downstream from arterial blood flow, waiting for unexcited blood to flow in, then imaging can be used to give an image

- with bright blood and suppressed background
- with "black blood" with bright background
- none of these
- with "black blood" with suppressed background

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