Reading Abdominal X Rays and Head CTs: Pre-Module Questions

1. Select the correct statement about the features of small and large bowel obstruction on standard abdominal x rays.

    A. Air-fluid levels occur only in small bowel obstruction.
    B. Small bowel obstruction presents with many dilated loops of bowel in a central location.
    C. In large bowel obstruction, there is no gas present in the large bowel.
    D. None of the above

2. All of the following are signs of increased intracranial pressure on Head CT EXCEPT:

    A. Poor grey-white matter differentiation
    B. Slit-like lateral ventricles
    C. Well-defined sulci and gyri
    D. Effacement and compression of the quadrigeminal cistern

Reading Abdominal X Rays and Head CTs: Post-Module Questions

1. Which of the following features is most consistent with small bowel obstruction on standard abdominal x ray?

    A. Presence of gas in the large bowel and rectum
    B. Few dilated loops of bowel in a peripheral location
    C. Air-fluid levels
    D. Many dilated loops of bowel in a central location

2. In a child with hydrocephalus and a VP shunt, all of the following are signs of increased intracranial pressure on head CT EXCEPT:

    A. Poor grey-white matter differentiation
    B. Increased size of the ventricles
    C. Slit-like lateral ventricles
    D. Effacement of the sulci and gyri

Reading Abdominal X Rays and Head CTs: Knowledge Questions

1. Which of the following features is most consistent with large bowel obstruction on standard abdominal x ray?

    A. Absence of gas in the large bowel and rectum
    B. Many dilated loops of bowel in a central location
    C. Few dilated loops of bowel in a peripheral location
    D. Air-fluid levels

2. Select the incorrect statement about the features of increased intracranial pressure on Head CT.

    A. Decreased cerebral perfusion and global ischemia results in poor grey-white matter differentiation.
    B. Increased intracranial pressure from generalized cerebral edema may result in enlargement of the ventricles.
    C. Effacement of the sulci and gyri occurs as the brain volume increases.
    D. Increased intracranial pressure from obstructive hydrocephalus may result in enlargement of the ventricles.

Reading Abdominal X Rays and Head CTs: Pre-Module Answers

1. **B**. Small bowel obstruction (SBO) presents with many dilated loops of bowel in a central location. There is typically little or no gas in the large bowel. There may be air-fluid levels in SBO, but these may also occur in large bowel obstruction. See the table below for more differentiating features of small and large bowel obstruction.

Features of Bowel Obstruction

Feature	Small Bowel	Large Bowel
Bowel Diameter (in adults)	> 3 cm	> 5 cm
Position of Loops	Central	Peripheral
Number of Loops	Many	Few
Fluid Levels (on erect film)	Many, short	Few, long
Abdominal markings	Valvulae (all the way across)	Haustra (partially across)
Gas in Large Bowel	No	Yes

2. **C.** Increased intracranial pressure (ICP) results in effacement of the sulci and gyri on Head CT. The swelling increases the brain volume within the rigid skull, encroaching upon the spaces normally occupied by CSF: therefore, there is less visualized CSF around the rim of the brain, the sulci, gyri and cisterns become effaced and compressed, and the ventricles become smaller and slit-like. As ICP rises, it becomes more difficult to maintain cerebral perfusion and global ischemia occurs, resulting in the loss of grey-white matter differentiation.

Reading Abdominal X Rays and Head CTs: Post-Module Answers

1. **D.** Small bowel obstruction (SBO) presents with many dilated loops of bowel in a central location. There is typically little or no gas in the large bowel. There may be air-fluid levels in SBO, but these may also occur in large bowel obstruction. See the table below for more differentiating features of small and large bowel obstruction.

Features of Bowel Obstruction

Feature	Small Bowel	Large Bowel
Bowel Diameter (in adults)	> 3 cm	> 5 cm
Position of Loops	Central	Peripheral
Number of Loops	Many	Few
Fluid Levels (on erect film)	Many, short	Few, long
Abdominal markings	Valvulae (all the way across)	Haustra (partially across)
Gas in Large Bowel	No	Yes

2. **C.** In cases of known or suspected hydrocephalus, increased ICP will result in large ventricles with effacement and a rounded shape. Due to compression from the ventricular system, the sulci, gyri and cisterns will still likely be compressed and effaced. Poor grey-white differentiation may also be seen due to cerebral hypoperfusion.

Reading Abdominal X Rays and Head CTs: Knowledge Answers

1. **C.** Large bowel obstruction (LBO) presents with a few dilated loops of bowel in a peripheral location.There may be air-fluid levels in LBO, but these may also occur in small bowel obstruction. See the table below for more differentiating features of small and large bowel obstruction.

Features of Bowel Obstruction

Feature	Small Bowel	Large Bowel
Bowel Diameter (in adults)	> 3 cm	> 5 cm
Position of Loops	Central	Peripheral
Number of Loops	Many	Few
Fluid Levels (on erect film)	Many, short	Few, long
Abdominal markings	Valvulae (all the way across)	Haustra (partially across)
Gas in Large Bowel	No	Yes

2. **B.** In cases of global cerebral edema, increased intracranial pressure (ICP) results in effacement of the sulci and gyri on Head CT. The swelling increases the brain volume within the rigid skull, encroaching upon the spaces normally occupied by CSF: therefore, there is less visualized CSF around the rim of the brain, the sulci, gyri and cisterns become effaced and compressed, and the ventricles become smaller and slit-like. In cases of known or suspected hydrocephalus, increased ICP will result in large ventricles with effacement and a rounded shape.