

# Diagnostic imaging methods in sudden abdominal events

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**Checked version of the article can be found here ([https://www.wikilectures.eu/index.php?title=Diagnostic\\_imaging\\_methods\\_in\\_sudden\\_abdominal\\_events&oldid=289528](https://www.wikilectures.eu/index.php?title=Diagnostic_imaging_methods_in_sudden_abdominal_events&oldid=289528)).**

See also comparison of actual and checked version ([https://www.wikilectures.eu/index.php?title=Diagnostic\\_imaging\\_methods\\_in\\_sudden\\_abdominal\\_events&diff=-&oldid=289528](https://www.wikilectures.eu/index.php?title=Diagnostic_imaging_methods_in_sudden_abdominal_events&diff=-&oldid=289528)).

The basic imaging method for abdominal sudden events is **native abdominal image** and **abdominal ultrasound**.



## Skiagraphy

### Native belly shot

A native abdominal radiograph is the primary imaging modality for suspected NPB. The image is taken standing up with a horizontal beam. If the patient cannot stand, the image is taken lying on the side (horizontal beam) and on the back. On the image we can see:

- pneumoperitoneum: most often visible infradiaphragm on the standing image,
- ileus: fluid levels in intestinal loops, distension of loops,
- contours of parenchymal organs, urinary bladder,
- nephrolithiasis,
- contrast foreign bodies: metal clips (postoperatively), tablets, stents in blood vessels.

Native image of the abdomen: ileus (<http://atlas.mudr.org/Case-images-Small-bowel-ileus-118>)

Native image of the abdomen: small bowel ileus (<http://atlas.mudr.org/Case-images-Ileus-small-bowel-obstruction-347>)

Native abdominal image: massive pneumoperitoneum (<http://atlas.mudr.org/Case-images-Pneumoperitoneum-massive-400>)

Horizontal beam native lateral abdominal image: pneumoperitoneum (<http://atlas.mudr.org/Case-images-Pneumoperitoneum-lateral-position-1224>)

X-ray native image of abdomen: nephrolithiasis (<http://atlas.mudr.org/Case-images-Casting-renal-stones-nephrolithiasis-385>)

## Fluoroscopy

### GIT Passage

In patients with a lower degree of passage disorder, examination of the passage through the gastrointestinal tract can be supplemented. Iodine contrast substance (Telebrix) is administered orally (or through a probe) and its passage through individual parts of the tract is monitored at time intervals. If the patient has a nasojejunal or nasogastric tube, it must remain closed during the examination.

GIT passage: preserved passage in (sub)ileus (<http://atlas.mudr.org/Case-images-Small-bowel-ileus-751>)

## Ultrasound

Basic examination method in patients with suspected NPB. Causes of abdominal pain that US can show include:

- cholecystitis and cholecystolithiasis, dilation of the bile ducts,
- urolithiasis (reliably up to 5 mm), dilatation of the hollow system of the kidney; pyelonephritis can be recognized on US with difficulty and only in an advanced stage,
- inflammation of the intestinal wall: colitis, enteritis, non-specific intestinal inflammations, diverticulitis, appendicitis,

- pancreatitis: showing seepage along the pancreas, enlargement of the pancreas, fluid collection; However, UZ is not in dg. pancreatitis reliable,
- tumors,
- dilatation of intestinal loops with fluid during ileus,
- fluid in the abdominal cavity - from various causes.

Abdominal USG: congestion in the hollow system of the kidney (hydronephrosis) (<http://atlas.mudr.org/Case-images-Hydronephrosis-568>)

Abdomen USG: emphysematous cholecystitis (<http://atlas.mudr.org/Case-images-Emphysematous-cholecystitis-pericholecystic-abscess-953>)

Abdominal USG: acute appendicitis (<http://atlas.mudr.org/Case-images-Acute-appendicitis-1073>)

Abdomen USG: Crohn's disease terminal ileitis (<http://atlas.mudr.org/Case-images-Terminal-ileitis-1186>)

Abdominal USG: diverticulitis (<http://atlas.mudr.org/Case-images-Acute-diverticulitis-perdiverticulitis-sigmoid-colon-479>)

## Computed Tomography - CT

CT is performed for sudden abdominal events, if UZ, native abdominal imaging, clinical and laboratory examinations do not clarify the cause of the difficulties or they are not in agreement, and in patients who cannot be well examined by UZ and to clarify the finding. It is made:

- CT of the abdomen with oral administration of contrast agent in most cases,
- CT of the abdomen without oral administration of contrast substance in patients where the examination cannot be delayed or the patient does not accept per os, also in case of bleeding into the GIT, suspected vascular ileus (examination in arterial and venous phase)
- CTA without oral administration of contrast substance when active bleeding or arterial occlusion is suspected,
- native CT of the abdomen: to rule out urolithiasis, pneumoperitonea (in the case of an unclear finding on the native image).

Before contacting the RDG office, it is advisable to find out if the patient is allergic to iodine contrast material and when he last ate.

CT abdomen: vascular ileus (<http://atlas.mudr.org/Case-images-Bowel-ischemia-gas-in-portal-vein-and-liver-401>)

CT abdomen: vascular ileus (<http://atlas.mudr.org/Case-images-Mesenterial-ischemia-gas-in-portal-vein-1279>)

CT nephrogram: urolithiasis (<http://atlas.mudr.org/Case-images-Urolithiasis-in-pelviureteric-junction-881>)

CT abdomen: acute pyelonephritis (<http://atlas.mudr.org/Case-images-Acute-pyelonephritis-left-kidney-283>)

## Magnetic resonance - MR

Apart from MRCP, there is no other statistical indication for MR in sudden abdominal events.

## Links

### External links

- Images at atlas.mudr.org (<http://atlas.mudr.org>)
- Classification and tables in radiodiagnosis at mudr.org (<http://www.mudr.org/web/>)