FACTT:

Focused Assessment with Computed Tomography in Trauma.

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The "Total Body" Trauma Scan

First described in 2001 ASER (RSNA 2002) and first reported by the MGH Emergency Imaging

Made possible with advent of helical scanning and significantly improved with MDCT

Permits rapid imaging of the head, spine, chest abdomen and pelvis in the multiple trauma patient; continued on to include

Excellent multiplanar and volumetric reformations for evaluation of complex injuries

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Immediate recognition of life-threatening conditions and injuries is the key to trauma management.

Trauma management incorporating FACTT enhances a rapid response to life-threatening problems and enables a comprehensive assessment of the severity of each relevant injury.

Due to its speed and accuracy, FACTT during primary trauma survey supports rapid decision-making and may increase survival.

Kanz et al.
Journal of Trauma Management & Outcomes 2010, 4:4
http://www.traumamanagement.org/content/4/1/4

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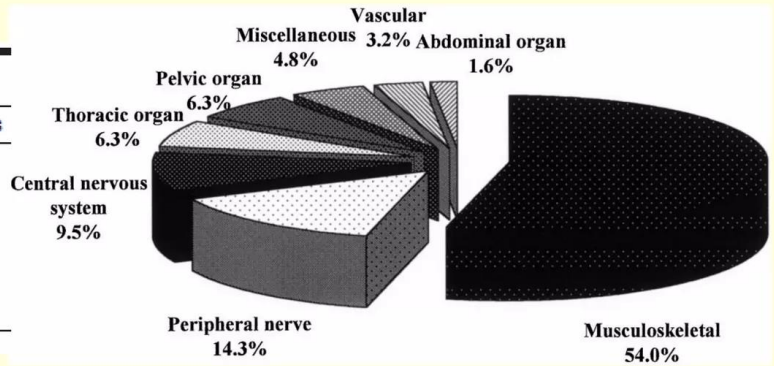
Patients with missed injuries tend to be more severely injured with initial neurologic compromise.

The majority of missed injuries are potentially avoidable with repeat clinical assessments and a high index of suspicion.

Table 3 Diagnosis of Missed Injuries

Method	Number of Missed Injuries
Repeat imaging or secondary review	26
Abnormality noted in hospital	19
Patient complaint in hospital	11
Abnormality noted postdischarge	4
Patient complaint postdischarge	3
Total	63



Buduhan G, McRitchie DI. Missed injuries in patients with multiple trauma. J Trauma. 2000;49:600–605.

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The trauma is an urgent clinical-surgical condition difficult to assess due to the various possibilities of injury that warrant a multidisciplinary specialized treatment.

Motta-Ramírez GA, Cabello PR.
Evaluación por ultrasonografía del trauma cerrado de abdomen en la sala de urgencias. Revisión de la literatura.
Rev Sanid Milit Mex. 1999;53:387-391

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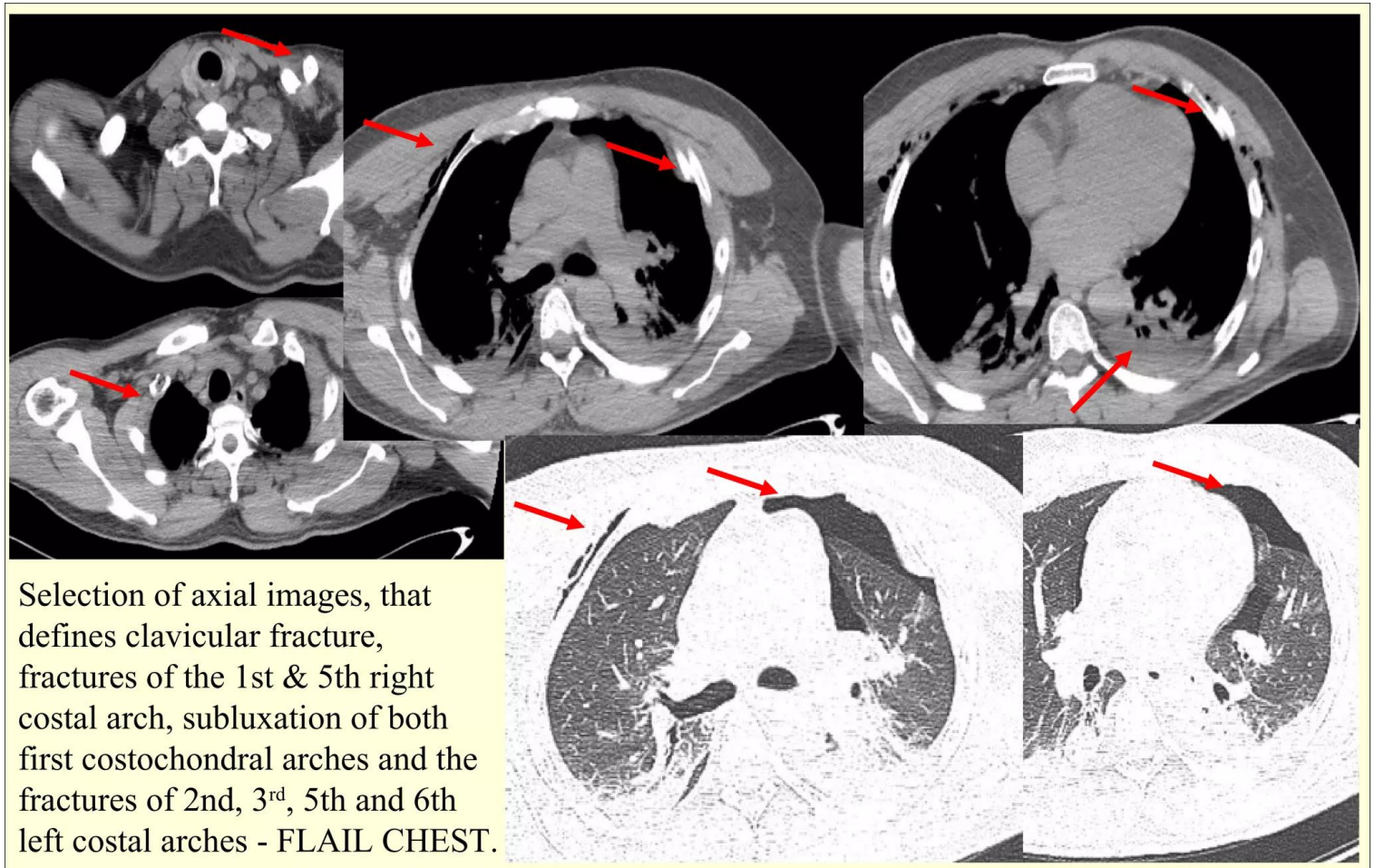

Selection of axial images, that defines clavicular fracture, fractures of the 1st & 5th right costal arch, subluxation of both first costochondral arches and the fractures of 2nd, 3rd, 5th and 6th left costal arches - FLAIL CHEST.

Also defines the bilateral subcutaneous emphysema and pneumothorax left hidden, unnoticed clinically, radiologically suspected, and CT confirms

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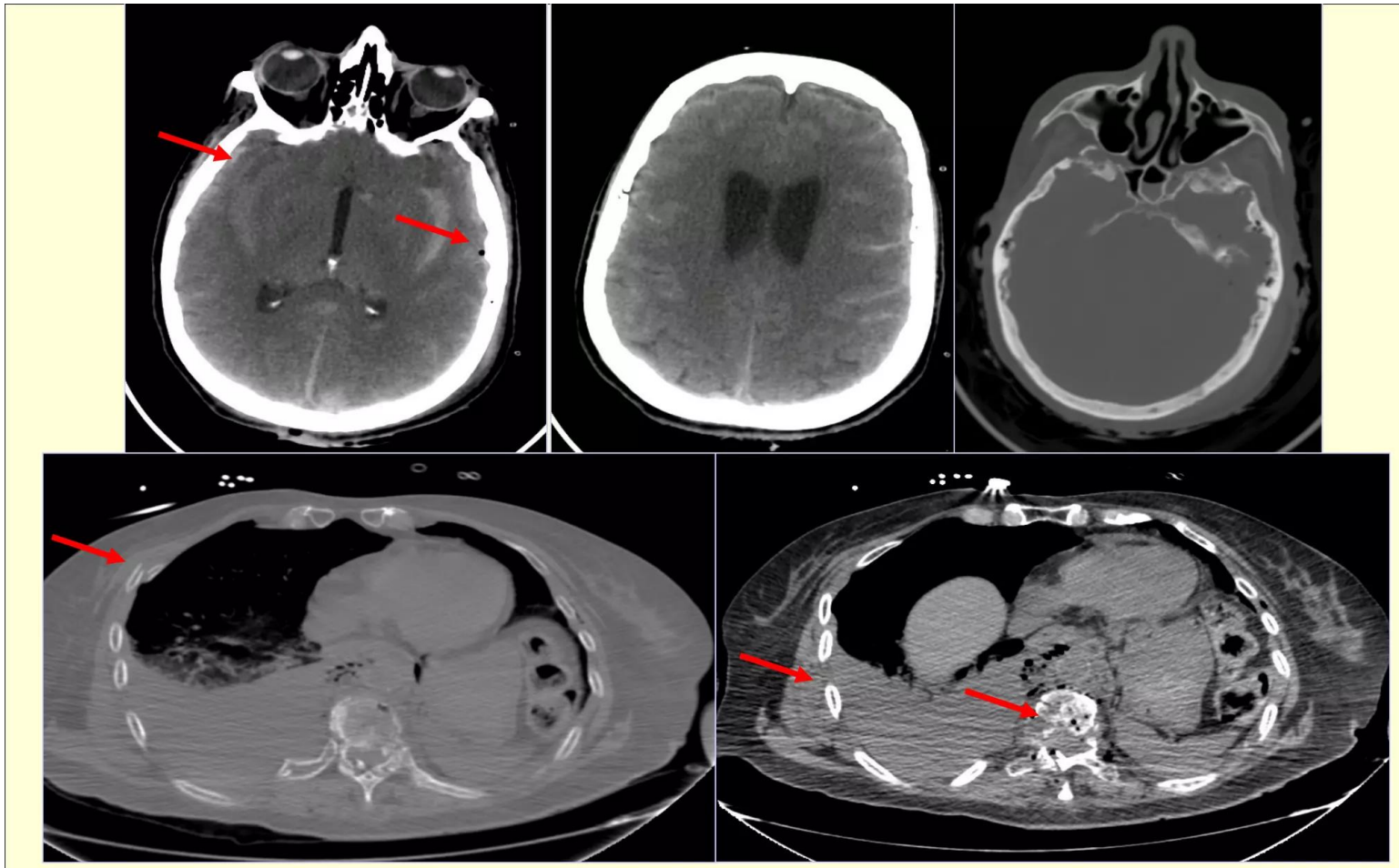

Male, 25 years, with blunt trauma toracoabdominopélvico by runover. The axial images show pneumocephalus, subarachnoid bleeding, fracture of the base of the skull, rib fractures, hemothorax, pneumomediastinum, & multifragmentary dorsal vertebra fracture.

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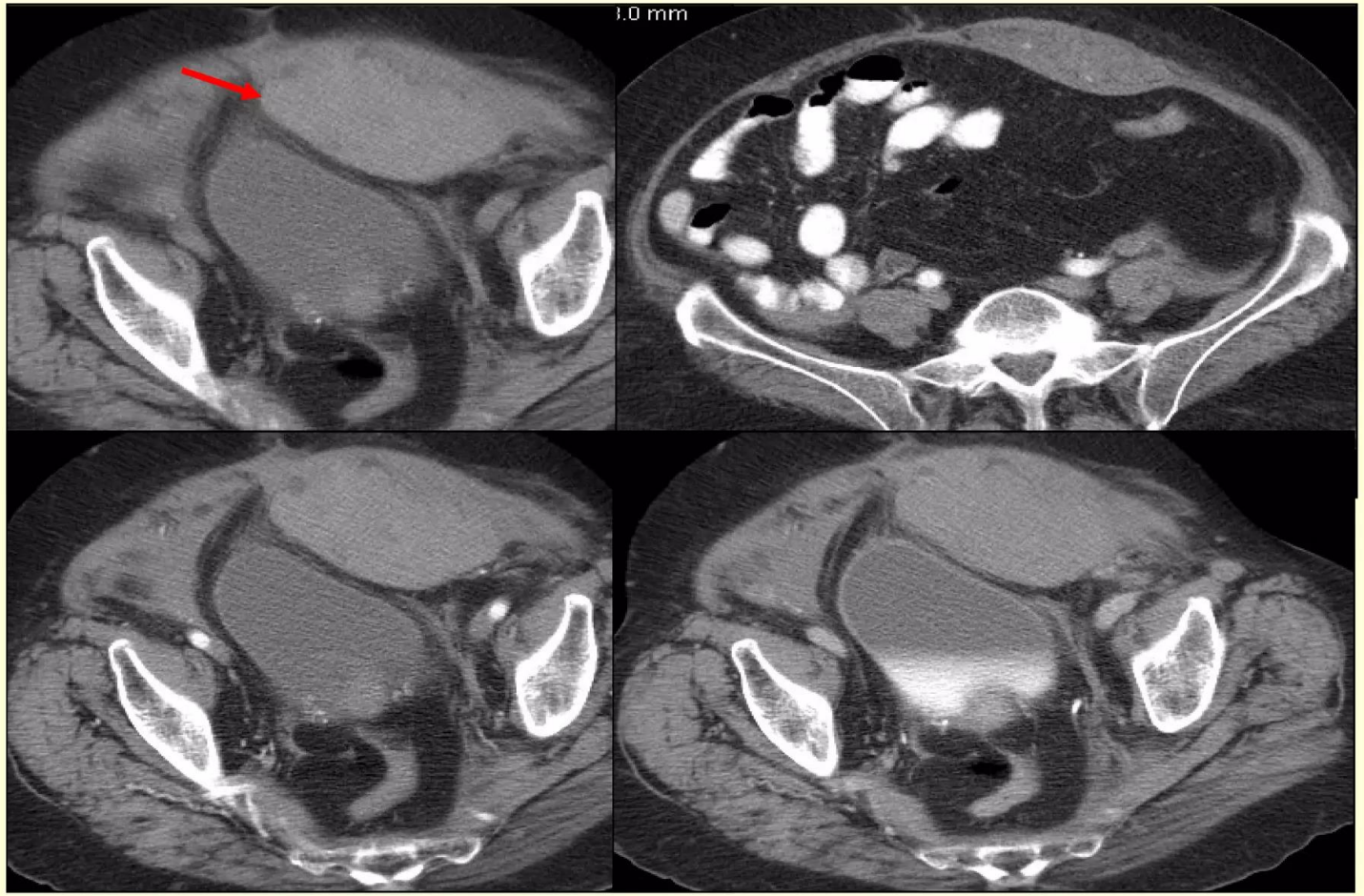

Male, 60 years, with blunt abdominal trauma and abdominal mass. Note the changes in the left abdominal wall. It was a POSTRAUMATIC RECTUS SHEATH HEMATOMA (RSH).

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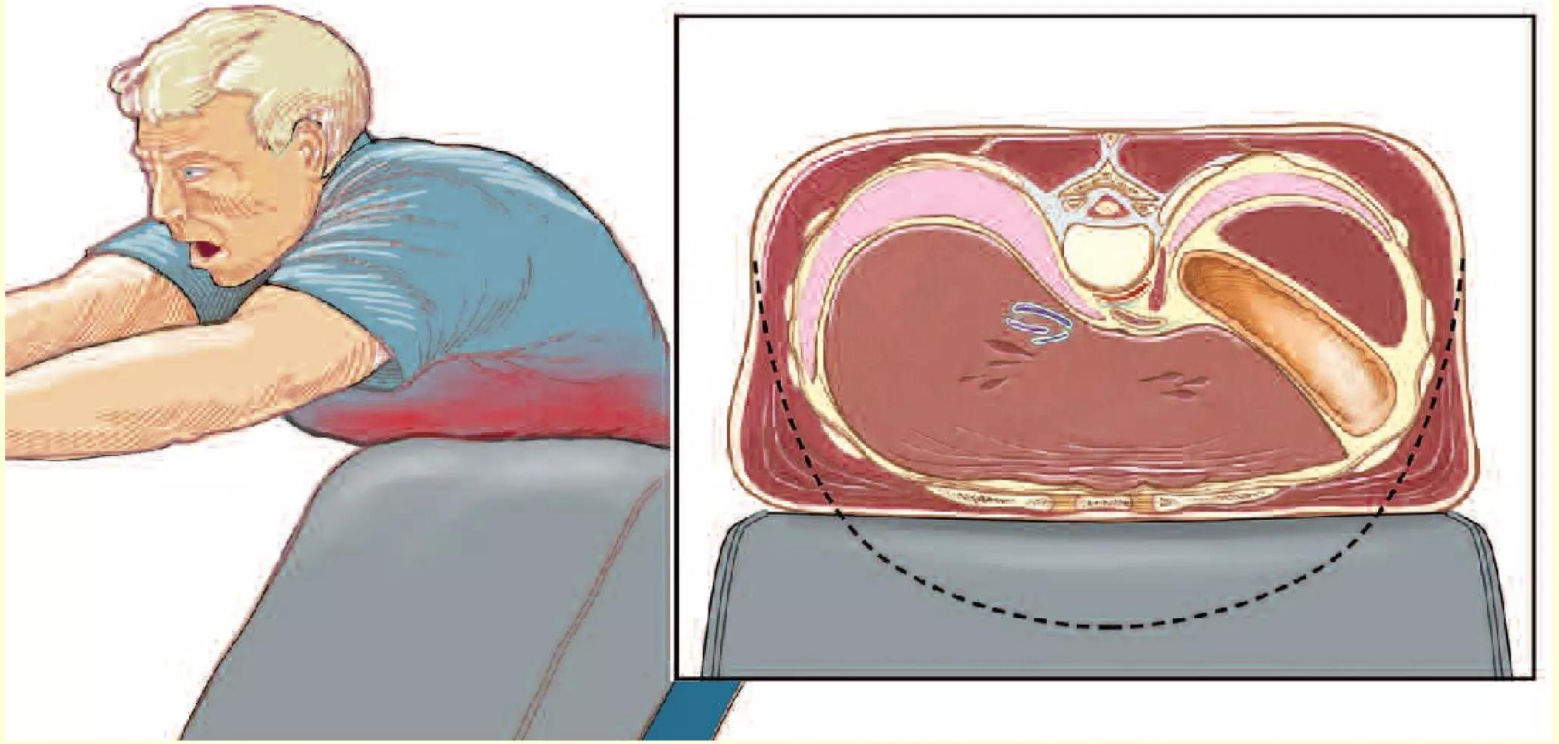

Rectus sheath hematoma (RSH) is the result of bleeding into the rectus sheath from damage to the superior or inferior epigastric arteries or their branches or from a direct tear of the rectus muscle. The emergency physician should be familiar with rectus sheath hematoma because it can mimic almost any abdominal condition. While usually a self-limiting entity, rectus sheath hematoma can cause hypovolemic shock following sufficient expansion, with associated mortality.

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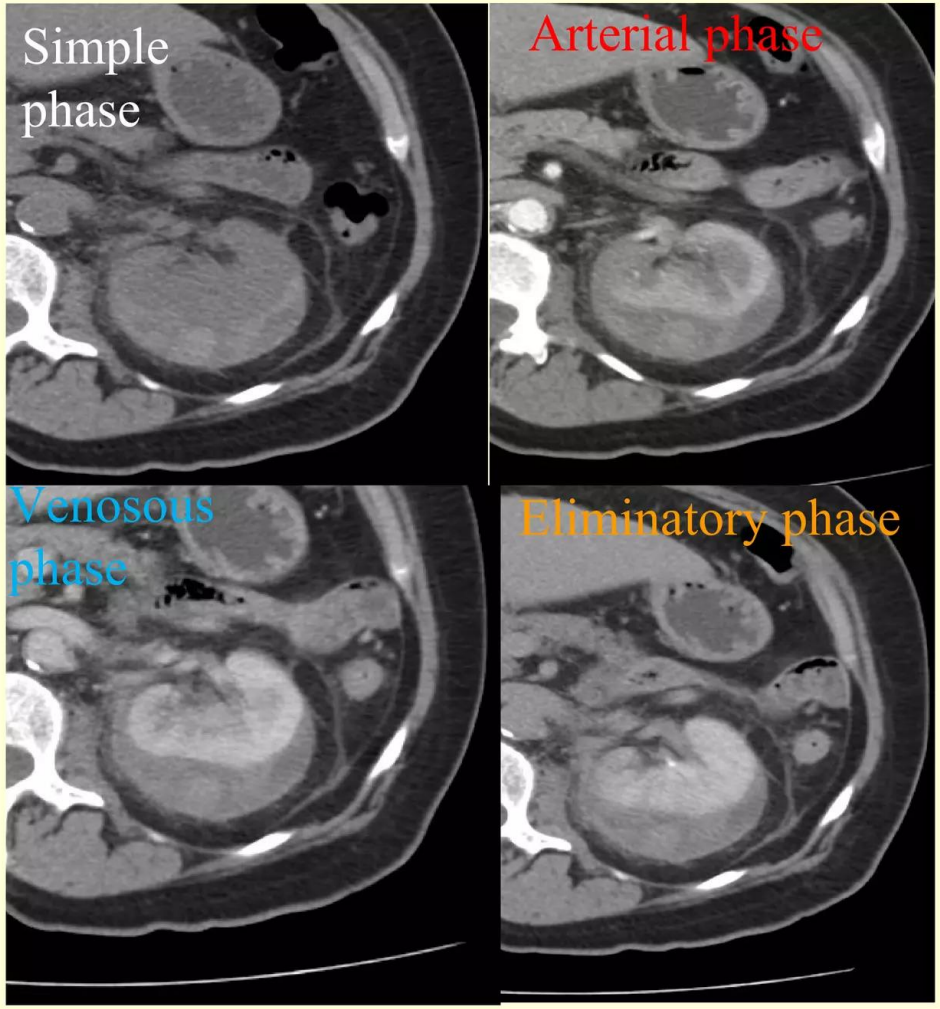
RENAL TRAUMA



LEFT RENAL TRAUMATIC INJURY GRADE II

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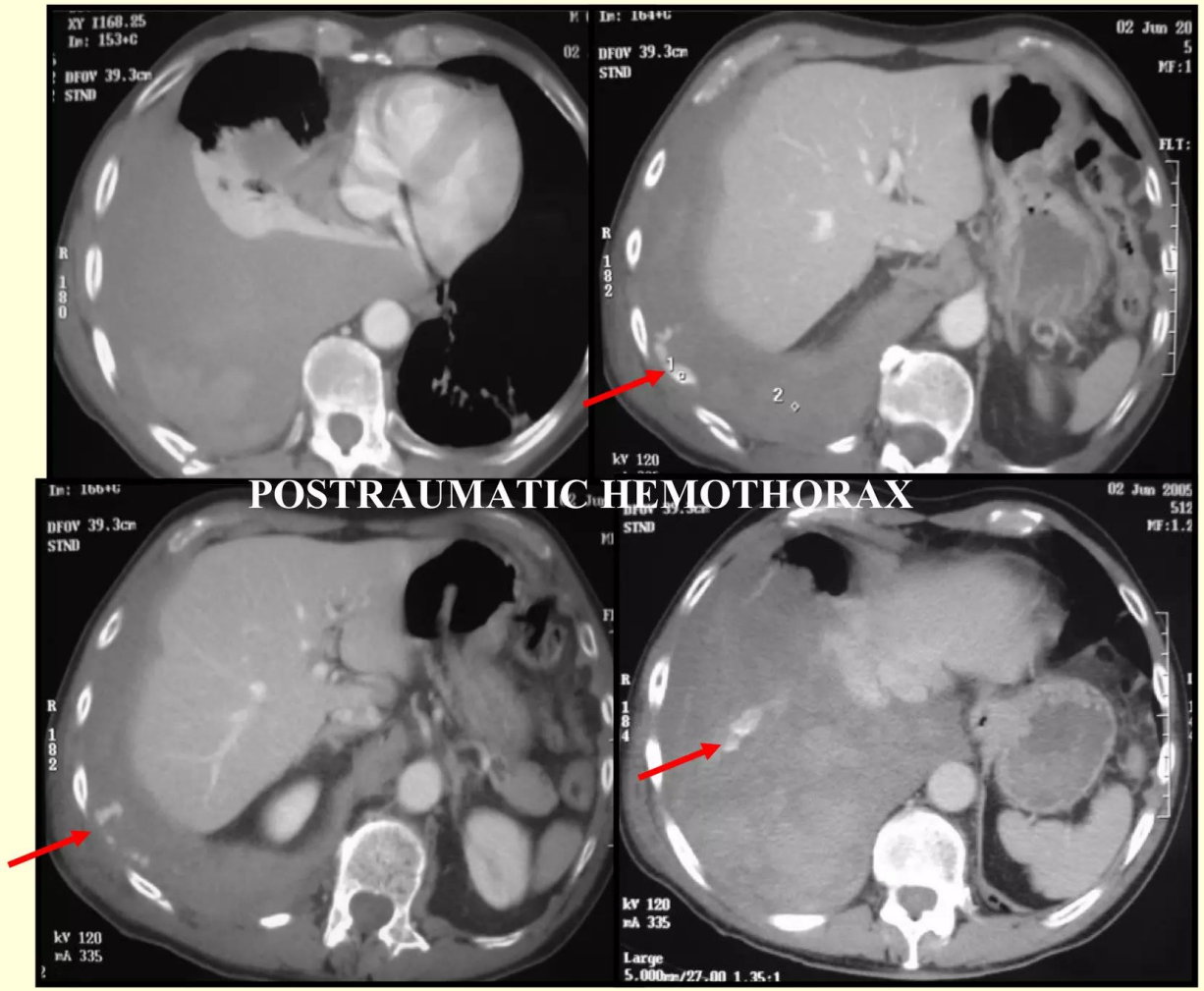

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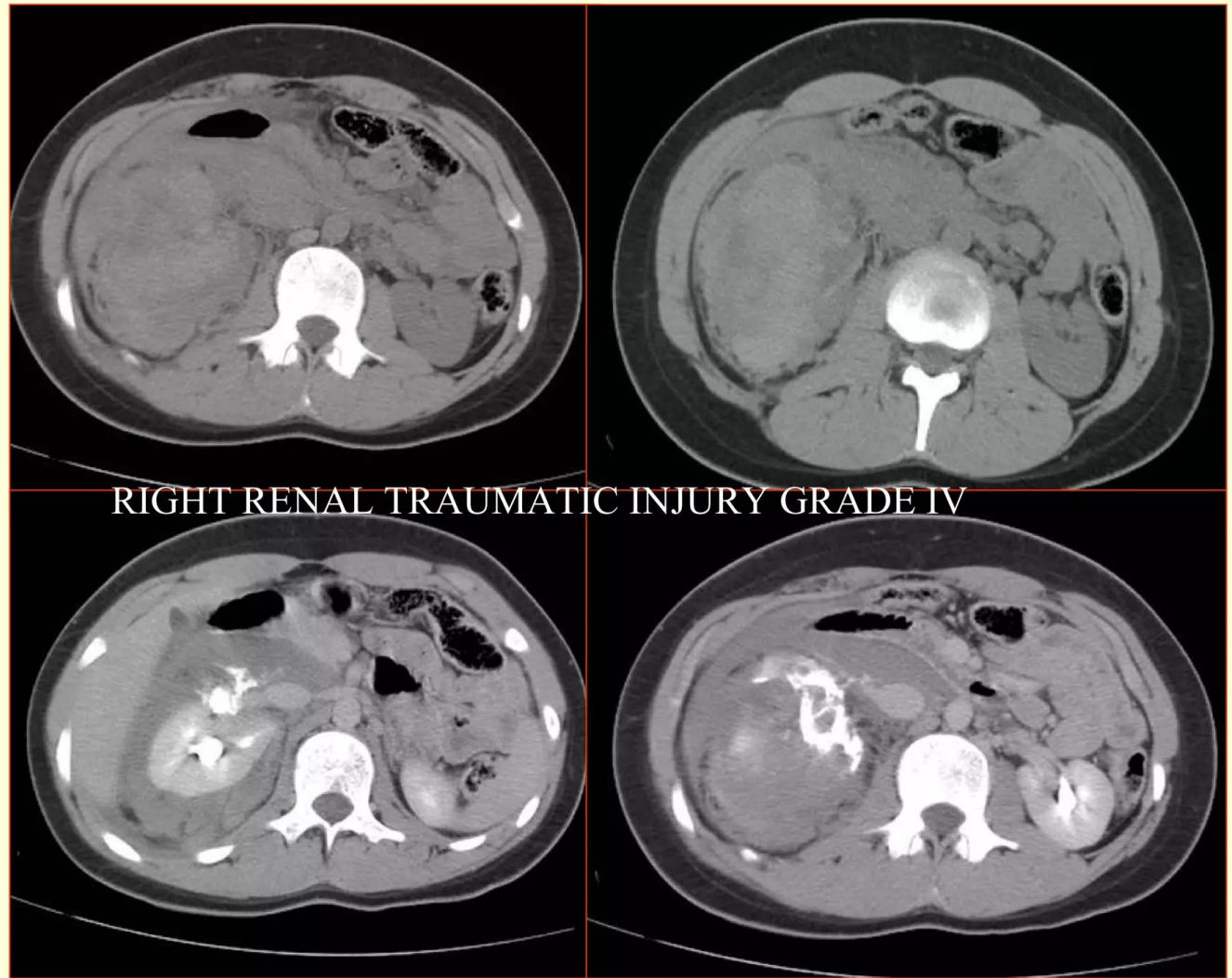
RENAL TRAUMA



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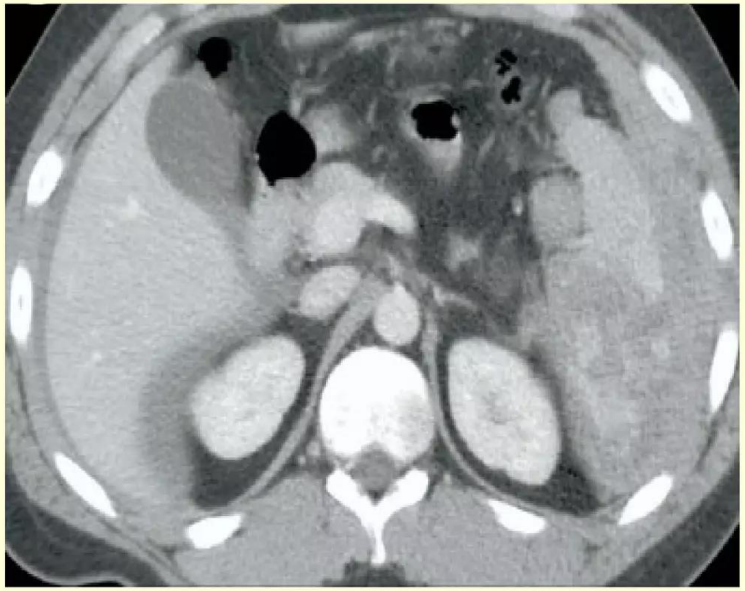
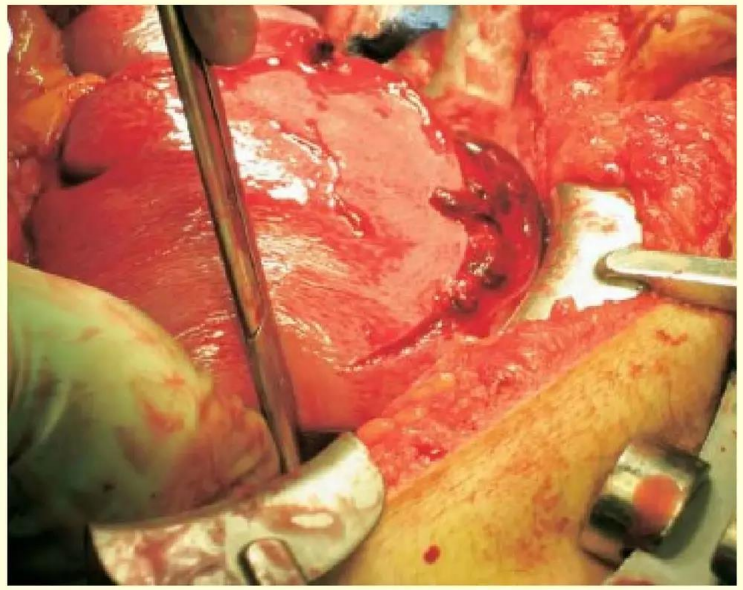
SPLENIC LACERATION





Blunt abdominal trauma with perisplenic hematoma, capsular disruption and parenchymal splenic laceration involving the hilum: GRADE IVA

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Why a total body trauma scan?

- Location of fatal injuries
- – 40% from head injuries
- – 25% from chest injuries
- – 10% from abdominal injuries
- – 20% related to spine trauma
- **FACTT,** "Total Body" MDCT scan
- – Scan from vertex of head through pelvis can evaluate
- for injuries in these four areas in a quick 2-4 minute
- single acquisition CT scan
- – Not for everyone; indicated for the polytrauma patient

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FACTT, Scan Protocols

- Recommendation: 16 slice or greater MDCT scanner
- Use IV contrast material for chest, abdomen, pelvis
- Routine oral contrast not needed today

– Triple contrast (oral, colon, IV) for penetrating injuries

- If suspected carotid/vertebral injury, scan head/neck with IV contrast after non-contrast head scan
- Continue scan as a run-off for lower extremity injury
- Delayed scan for positive parenchymal organ injury
- CT cystogram for suspected bladder rupture

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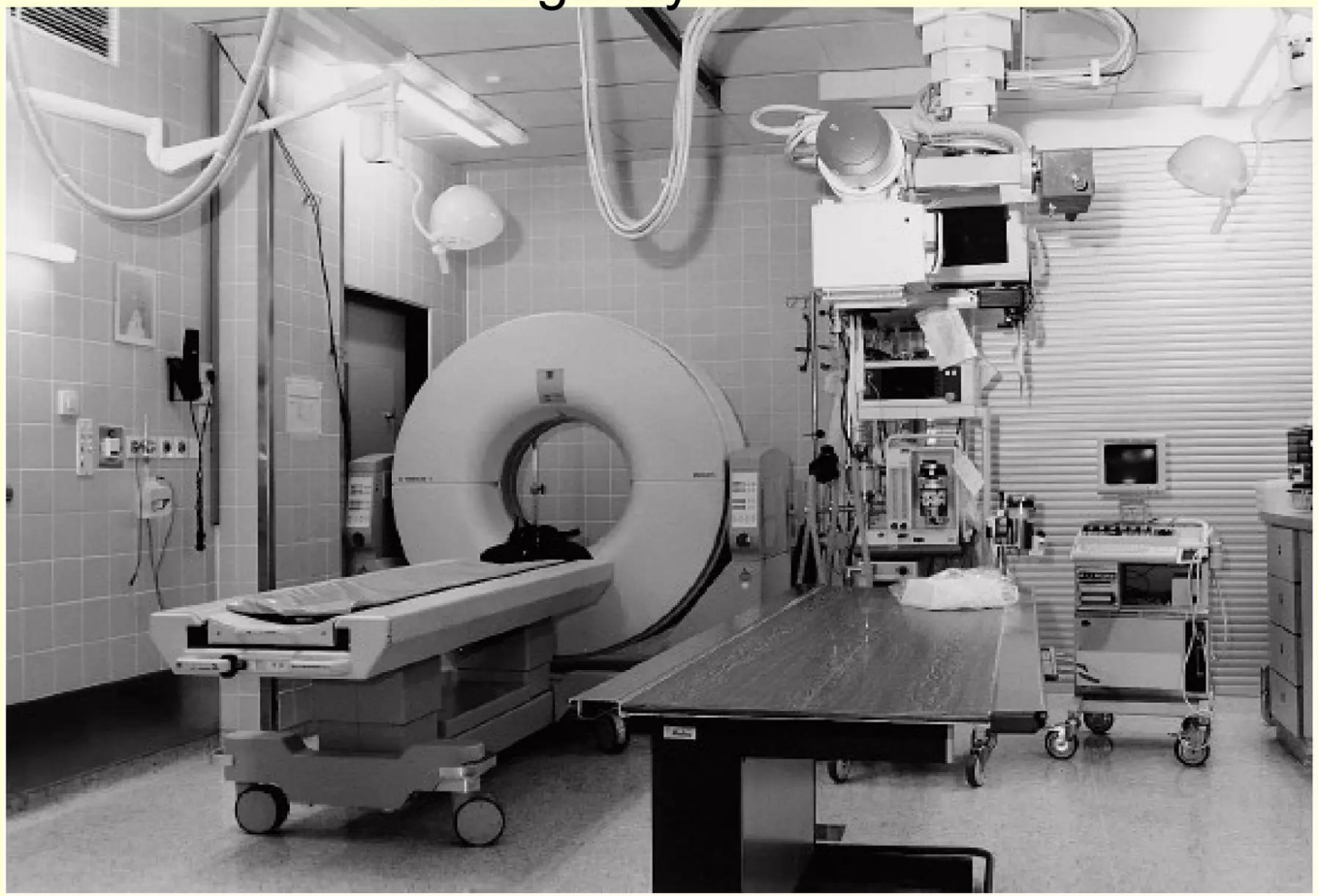
Emergency room



Emergency Radiology 1999;6:61-69.

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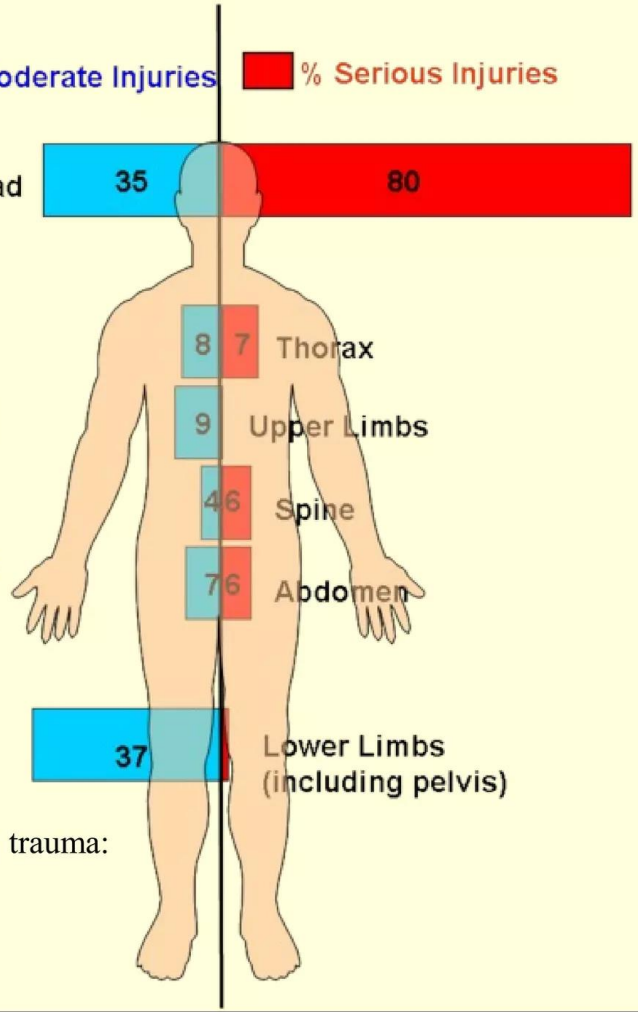
Moving from head to toe, we can accept that cranial CT is currently the best available screening method in the emergency setting, irrespective of formal proof of its sensitivity and specificity.
It quickly reveals the most common and surgically important traumatic pathologies such as skull fractures, intracranial and intracerebral bleeds, contusions and edema.



Stengel D et al Primary pan-CT for blunt multiple trauma: can the hole be better than its parts?
Injury, Int. J. Care Injured (2009) 40S4, S36– S46.

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Patients should be promptly referred for whole body computed tomography (WBCT), **FACTT** if clinically indicated, to facilitate early detection of serious injuries within one centre with a full range of trauma specialists.

Adiotomre A, Chopra A, Kirwadi S, Kotnis N.
Results from the first year as a major trauma radiology unit in the UK .
Clinical Radiology 2014;69:812-821.

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