[Application of multislice spiral CT (MSCT) in multiple injured patients and its effect on diagnostic and therapeutic algorithms]

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The initial diagnostic work-up of trauma victims with multiple injuries is currently a combination of conventional radiography (CR), ultrasound (US), and computed tomography (CT). This article reviews the diagnostic quality of the different imaging modalities regarding detection and classification of injuries. CT performs better than US in detecting traumatic lesions of abdominal parenchymal organs. Furthermore, CT is better than CR in detecting therapeutically relevant chest and bone injuries. MSCT may replace CR and US under the condition that it is faster than or at least as fast as the conventional approach to diagnose life threatening injuries. This can be achieved only by changing the work-flow for the entire trauma team including radiologist. Furthermore, certain prerequisites must be fulfilled including integration of a MSCT scanner into the emergency room. An optimized whole body CT protocol for the assessment of trauma victims using MSCT as well as a two-step algorithm for reporting the imaging findings depending on their clinical significance is presented.