

- Crush Injury Definition Definition with >80% consensus: Crush injury is the local manifestation of direct physical trauma, and can present as muscle injury and swelling, along with possible muscle necrosis and neurologic dysfunction in the affected areas. It can be due to the primary direct effect of trauma or ischemia-reperfusion injury related to compression.

Crush Injury Definition

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supported

No feedback

i agree

Agree

agree

Yes, I agree

- Crush Syndrome Definition Definition with >75% consensus: Crush syndrome is the systemic manifestation of extensive skeletal muscle damage, due to the disruption of cellular integrity and release of its contents into circulation. It manifests as haemodynamic and metabolic disturbances, and can result in acute kidney injury, multisystem organ dysfunction or death.

Crush Syndrome Definition

Definition with >75% consensus:

Crush syndrome is the systemic manifestation of extensive skeletal muscle damage, due to the disruption of cellular integrity and release of its contents into circulation. It manifests as haemodynamic and metabolic disturbances, and can result in acute kidney injury, multisystem organ dysfunction or death.

supported

No Feedback

i prefer this definition than the first one

Agree

agree

Yes, I agree.

- Crush injury and syndrome represent a spectrum of disease [>90% consensus] Minor crush that can be safely discharged from EC were described as follows: Minor mechanism of injury Normal GCS Soft muscle compartments without severe bruising Ambulatory Voiding freely with clear urine Minimal analgesic requirements Labs without significant derangements Crush warranting hospitalization was described as follows: Moderate to severe mechanism of injury: extensive blunt trauma, prolonged ischemia from tourniquet or vascular injury, etc. Exam with any of the following: muscle weakness large areas of muscular bruising or swelling pain out of proportion to physical exam hematuria or coca-cola colored urine abnormal GCS abnormal initial vitals: tachycardia, bradycardia, hypotension, or signs of respiratory distress. Abnormal labs: pH, CK, creatinine. Complicated anticipated course: poor urine output, unable/unwilling to take PO fluids, etc. Crush requiring dialysis was described as follows: Generalized anasarca or pulmonary edema Respiratory distress requiring ventilatory support Anuric/persistent oliguria Severe acidosis or hyperkalemia or symptomatic uremia (pericardial friction rub, frosting, encephalopathy) Bradyarrhythmia in setting of hyperkalemia

Agreed

i totally agree

Agreed

The use of alcohol is a confounder here. These guidelines are great, however they omit the presence of alcohol within our setting.

Crush warranting hospitalisation: Bicarb level < 20 on blood gas, oliguria/ anuria as a solitary finding does not warrant dialysis

Yes, I agree,

- Laboratory tests for prognostication of crush syndrome Serum creatinine, creatine kinase, and pH were rated as most useful labs (selected by >75% respondents) Serum lactate, bicarbonate, potassium, urea were next most useful (selected by >50% respondents).

Laboratory tests for prognostication of crush syndrome

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Serum lactate, bicarbonate, potassium, urea were next most useful (selected by >50% respondents).

I think it is worthwhile to include Lactate, bicarbonate and potassium especially in settings where the only POCT is a blood gas analysis and creat, CK are send-out labs

No comment

serum creatinine, Creatine Kinase,PH, Bicarbonate, urea,potassium. brief we should combine the two

It would also be interesting to see what was viewed as the 'least useful' tests for prognostication

agree - resources availability is still a concern.

Yes, I agree

- Triage for Crush The following factors posed challenges for triage of crush patients Polytrauma - presence of burns, hemorrhage, head injury, etc Pre-existing conditions - conditions such as diabetes and peripheral neuropathy can affect pain perception and influence risk of complications Early presentations - patients very early in the clinical course may have falsely normal labs Middle range lab abnormalities - labs that are slightly deranged can be challenging to interpret and use Limited history or exam - e.g. language barrier, abnormal mental status, intoxication, dark skin pigmentation, and obesity

Triage for Crush

The following factors posed challenges for triage of crush patients

Polytrauma - presence of burns, hemorrhage, head injury, etc

Pre-existing conditions - conditions such as diabetes and peripheral neuropathy can affect pain perception and influence risk of complications

Early presentations - patients very early in the clinical course may have falsely normal labs

Middle range lab abnormalities - labs that are slightly deranged can be challenging to interpret and use

Limited history or exam - e.g. language barrier, abnormal mental status, intoxication, dark skin pigmentation, and obesity

Agreed

i agree

Agreed

agreed

Yes, I agree

- Clinical Predictive Tool Timing A decision tool was felt to be most helpful to identify patients that can be safely discharged versus observed, using data obtained in the early phase of EC care, within 4 to 6 hours of injury. (>75% consensus)

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i agree

Agreed

agreed

Yes, I agree

- Clinical Predictive Tool Endpoints Endpoints of acute kidney injury, need for dialysis and need for respiratory support had greatest consensus (>75% for all). Use of a composite outcome was favored (>75%).

Clinical Predictive Tool Endpoints

Endpoints of acute kidney injury, need for dialysis and need for respiratory support had greatest consensus (>75% for all).

Use of a composite outcome was favored (>75%).

agreed

i agree with need for dialysis and need for respiratory support as endpoints

Agreed

agreed

Yes, I agree

## - Any final feedback, thoughts or comments?

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Nil

no

Thank you for the opportunity to participate. I hope to see this research in action, as I believe it can benefit healthcare providers and patients alike.

incorporation of the McMahon score for prognostication