

Gustilo RB

Contemporary American Orthopaedic surgeon.

Published >100 papers.

Can't find the actual paper describing the classification anywhere, but I think it is in the reference below.

Gustilo and colleagues described 5 different grades in the Association of Osteosynthesis classification, as follows:

- Grade 1 - Skin lesion smaller than 1 cm; clean; simple bone fracture with minimal comminution
- Grade 2 - Skin lesion larger than 1 cm; no extensive soft tissue damage; minimal crushing; moderate comminution and contamination
- Grade 3 - Extensive skin damage with muscle and neurovascular involvement; high-speed injuries; comminution of the fracture; instability
  - Grade 3a - Extensive laceration of soft tissues with bone fragments covered; usually high-speed traumas with severe comminution or segmental fractures
  - Grade 3b - Extensive lesion of soft tissues with periosteal stripping, contamination, and severe comminution due to high-speed traumas; usually, exposed bone must be replaced with a local or free flap as a cover
  - Grade 3c - Exposed fracture with arterial damage that requires repair

Gustilo R. B., Simpson, L., Nixon R., Ruiz A., Indeck W.  
Analysis of 511 open fractures. Clin. Orthop, 1969, 66,  
148-154.