

# Novel nanoparticles could save soldiers' lives after explosions

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Soldiers with life-threatening blast wounds might one day benefit from a new nanoparticle under development. Credit: Stocktrek Images/iStock/Thinkstock

Soldiers who suffer internal trauma from explosions might one day benefit from a new treatment now under development. Researchers report in the journal *ACS Macro Letters* that injecting a certain type of nanoparticle helped reduce lung damage in rats experiencing such trauma. The potential treatment, which could be given at the most critical moment immediately after a blast, could save lives.

Pamela J. VandeVord, Erin B. Lavik and colleagues explain that in today's conflict zones, explosions account for 79 percent of combat-related injuries. Internal bleeding in the lungs resulting from these blasts can lead to death. Soldiers with such injuries need medical attention within a few hours, but options for immediate treatment are lacking. VandeVord's team set out to fill this therapeutic void.

Building on past research in this area, the researchers paired clot-promoting [nanoparticles](#)

with a corticosteroid that stops inflammation. They injected the particles in rats within 10 minutes of traumatic injury and found the therapeutic compound increased oxygen levels, and reduced [internal bleeding](#) and cellular damage in the lungs. The researchers conclude that the nanoparticles could be a good candidate to develop further for emergency trauma care.

**More information:** "Steroid-Loaded Hemostatic Nanoparticles Combat Lung Injury after Blast Trauma" *ACS Macro Lett.*, 2015, 4, pp 387–391  
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