

Title: Emergency Response Readiness Challenges for Casualties of Novichok Nerve Agent Exposure, From the Perspective of the Navalny and Skripal Cases

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Abstract:

CBRN/HAZMAT response requires emergency medical responders and hospitals designated to receive potentially exposed casualties. This presentation examines emergency response readiness through a comparative analysis of the Skripal and Navalny cases, with particular emphasis on the chronology of events, prehospital response, hospital reception, and subsequent clinical management.

The use of Novichok-class nerve agents in the poisoning of Sergei and Yulia Skripal (United Kingdom, 2018) and Alexei Navalny (2020) indicated some gaps in emergency and intensive care preparedness for highly toxic organophosphorus agents in civilian environments. These agents inhibit acetylcholinesterase, producing a severe cholinergic toxidrome with rapid progression to respiratory failure, while dermal exposures may present with delayed onset, complicating diagnosis and triage.

Analysis of the Salisbury incident demonstrates key clinical and operational challenges. Initial misdiagnosis delayed targeted treatment, while multiple patients required prolonged intensive care, including airway management, mechanical ventilation, sedation, and repeated antidote administration. Persistent toxicity and metabolic complications extended ICU burden beyond typical poisoning scenarios. The Navalny case further highlighted diagnostic delays and the importance of specialized toxicology centres and the need of information exchange between medical and other governmental including intelligence sectors.

A major challenge is secondary contamination risk. Patients may carry persistent agent on skin or clothing, posing hazards to responders and hospital staff. Early detection, decontamination and appropriate PPE are therefore essential before full clinical management. The Salisbury response revealed that initial hospital operations occurred with limited protective measures, underscoring the need for integration of CBRN protocols into routine emergency medicine workflows.

Building on these cases and operational experience, five key readiness pillars for medical systems are identified: (1) Personnel - training in toxidrome recognition and CBRN operations; (2) Equipment - availability of PPE, detection and decontamination capability, and antidote stockpiles; (3) Protocols - clear SOPs for triage, decontamination, and ICU escalation; (4) Training - realistic, multi-agency exercises to test capabilities; and (5) Coordination - effective communication between EMS, hospitals, and national authorities.

These incidents demonstrate that preparedness must move beyond traditional military-focused models toward integrated civilian medical response systems. Despite limited casualty numbers, the Skripal and Navalny cases represent high-impact stress tests for healthcare systems. The paper concludes that while the Skripal and Navalny cases did not result in large-scale casualties, they serve as critical real-world stress tests of emergency response systems. Lessons learned from these incidents should inform future investments in training, infrastructure, and international cooperation. Strengthening readiness across these pillars will enhance the ability of emergency and intensive care systems to manage nerve agent exposures, protect the medical staff and reduce morbidity and mortality in future events.

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Biography:

Boban Cekovic, graduated from the Serbian Military Academy, as NBC Defense Officer. He obtained Master of Technical Sciences in chemistry of organophosphorus compounds and is on doctorate studies at University of Defence, in Technological Engineering of Materials and Protection. He served as NBC Defense decontamination unit leader and as a Commander of the Unit for Removal of C/R Accidents Consequences for the city of Belgrade. He continued his research career, up to the Head of the Department for Decontamination and Detection Phenomena in the Military Technical Institute. From 2006 till 2015, he completed various postings with the OPCW - up to CW/Munition Specialist Team Leader (TL), Instructor and Head of Demilitarisation Inspections, also as a member of the UN investigation of the alleged use of chemical weapons in Syria in 2013 (Dept. to the TL of the OPCW component), then as a Field TL and as Head of Field Operations (rotational) within the OPCW-UN Mission in Syria. From 2019-2022 he performed as Head of the Fact-Finding Mission of the OPCW. From March 2022, B. Cekovic continued as full-time Gen. Manager, Operations (CBRNe SME) in several commercial CBRNe consultancy companies, stationed in The Netherlands. He is currently also operating as Technical Support & Product Applications Manager in UK PPE fabrics manufacturing company – Nonwovenn.