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## Intraosseous administration of freeze-dried plasma in the prehospital setting

Mor Rittblat<sup>1</sup>, Lilach Gavish<sup>2</sup>, Avishai M Tsur<sup>3,5</sup>, Shaul Gelikas, Avi Benov<sup>4</sup>, and Amir Shlaifer<sup>1</sup>

<sup>1</sup>Trauma and Combat Medicine Branch, Surgeon General's Headquarters, Israel Defense Forces, Ramat Gan, Israel

<sup>2</sup>Department of Military Medicine, Hadassah Medical Organization and Faculty of Medicine, Hebrew University of Jerusalem, Israel

<sup>3</sup>Department of Medicine B, Sheba Medical Center, Tel Hashomer, Israel

<sup>4</sup>Azrieli Faculty of Medicine, Bar-Ilan University, Safed, Israel

<sup>5</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

**Background:** Freeze dried plasma (FDP) is a commonly used replacement fluid in the prehospital setting when blood products are unavailable. It is normally administered via a peripheral intravenous (PIV) line. However, in severe casualties, when establishing a PIV is difficult, administration via intraosseous vascular access is a practical alternative, particularly under field conditions.

**Objectives:** To evaluate the indications and success rate of intraosseous administration of FDP in casualties treated by the Israel Defense Forces (IDF).

**Methods:** A retrospective analysis of data from the IDF-Trauma Registry was conducted. It included all casualties treated with FDP via intraosseous from 2013 to 2019 with additional data on the technical aspects of deployment collected from the caregivers of each case.

**Results:** Of 7223 casualties treated during the study period, intravascular access was attempted in 1744; intraosseous in 87 of those. FDP via intraosseous was attempted in 15 (0.86% of all casualties requiring intravascular access). The complication rate was 73% (11/15 of casualties). Complications were more frequent when the event included multiple casualties or when the injury included multiple organs. Of the 11 failed attempts, 5 were reported as due to slow flow of the FDP through the intraosseous apparatus. Complications in the remaining six were associated with deployment of the intraosseous device.

**Conclusions:** Administration of FDP via intraosseous access in the field requires a high skill level.

**Key Words:** Bone injection gun, freeze dried plasma (FDP), intraosseous vascular access, peripheral intravenous (PIV) line.

e: Rittblat@gmail.com