### Case Study: Multiple Gun Shot Wounds to the Abdomen

**Medical Nutrition Therapy in the Trauma ICU at Harborview Medical Center**

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#### Patient Background

- **27 year old Male**  
- **Height:** 188 cm (6’2”)  
- **Weight:** 94 kg (207#), **BMI:** 26.6  
- **PMH includes:** HTN, ADHD, psychiatric hx (auditory hallucinations, paranoid ideation, depression)

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#### Admission

- Shot multiple times in the back by unknown assailant  
- Patient unable to move his legs  
- Found hemothorax (bleeding in pleural cavity), chest tube placed  
- Transferred to Harborview Medical Center from outside hospital

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#### Injuries Found via HMC Ex Lap

- L pneumothorax  
- L diaphragm  
- L2 fx (bullet trajectory between L2-L3)  
- Pancreatic tail  
- L kidney  
- Splenic flexure (b/t transverse and descending colon)

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#### Trauma Vitamins

**Protocol**

Start right away, on day 1 if possible. Continue for 7 days or until transferred to the floor, which ever comes first.

- **Vitamin C:** 1,000mg IV x2d, pFT x5d  
- **Vitamin E:** 1,500IU BID pFT x7d  
- **Selenium:** 400mcg IV x2d, pFT x5d  
- **Glutamine:** 1 packet BID pFT x7d

**Common Practice:** MVI w/ minerals (includes Zn, Cu)

**Rationale**

- Severe trauma and critical illness → plasma levels of antioxidants and minerals fall and need replenishment  
- Helps prevent oxidative damage that can lead to acute respiratory distress syndrome (ARDS) and multisystem organ failure (MSOF)

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#### Re-evaluating Hyponatremia after leaving the ICU

Day 16: Hyponatremia first noted → MD ordered 1.5L free water restriction (FWR)  

- Day 25: Re-start home chlorthalidone (diuretic for HTN)

- Med known to decrease sodium levels, so discontinued diuretic on day 35  
- Continued with 1.5L FWR

- Day 42: New lab tests  
- Low serum osmolality  
- Normal urine osmolality (normal water excretion)

- Urinary Na+ <10  
- DEHYDRATION (not SIADH)

- Stop FWR, encourage fluid intake