Physical Activity in Children Treated with Hematopoietic Stem Cell Transplantation

What is Hematopoietic Stem Cell Transplant (HSCT)?
HSCT is a procedure that involves using stem cells to rebuild bone marrow function.

Phases:
1. Conditioning
2. Infusion
3. Neutropenia
4. Engraftment
5. Post-engraftment

Side Effects of Hematopoietic Stem Cell Transplant (HSCT)
- Muscle wasting
- Fatigue
- Decrease appetite
- Vomiting, nausea & diarrhea
- Pain
- Immunosuppression
- Decrease heart & lung fitness

Side Effects vary depending on the phase of treatment

HSCT & Physical Activity (PA)

HSCT Complications
- Delayed immune recovery
- Heart & lung damage
- Decreased red blood cells
- Graft versus host disease

HSCT Effect on Fitness
During treatment prolonged bed rest leads to:
- Decreased muscle
- Decreased strength
- Decreased cardiovascular fitness

Research shows that a moderate intensity and individualized PA program is possible, safe and does not negatively impact immune system recovery during HSCT.

PA during a HSCT hospitalization period can maintain or even improve fitness condition.

This is great news because usually fitness goes down.

Refer to Ch 8 in the POEM Manual for Additional Information