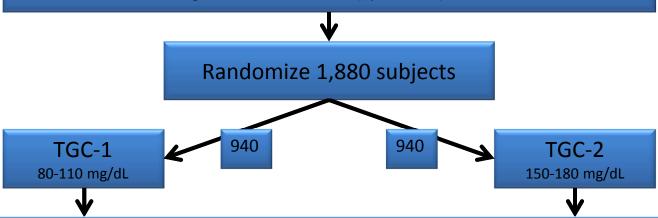
Half Pint Study Design

Eligible for consent (screen daily)

Include: Mechanical ventilation expected >24 hours *and/or* on pressors for hypotension Exclude: Post-op cardiac surgery, redirection of care, diabetes, chronic vent dependence

Obtain consent within 24 hrs of becoming eligible

Follow BGs q 4hrs or according to standard ICU practice for up to 28 days If BG \geq 150 mg/dL, confirm within 1 hr (up to 24 hrs), then randomize



Maintain BG range until ICU D/C or 28 days from Randomization

Continuous glucose monitoring and Excel®-based insulin infusion algorithm ("CHECKS")



Outcomes

- Primary: ICU-free days (28-day hospital mortality-adjusted ICU LOS)
 Secondary: 90-day mortality, 28-day accumulation of MODS, ventilator-free days,
 nosocomial infections, insulin algorithm safety and performance metrics
- 2. Primary: Neurodevelopmental outcomes at baseline and 1 year post-ICU (Vineland-II) Secondary: Behavioral and QOL outcomes at baseline and 1 year post-ICU (CBCL, PedsQL)

