Top Ten Things To Know
Body Mass Index (BMI) and Survival After In-Hospital Cardiac Arrest (IHCA)

1. There are no studies that address the association of BMI and IHCA survival.

2. Theoretically there may be challenges to adapt some resuscitation processes when a patient’s BMI is at either end of the BMI spectrum.

3. This study sought to examine the association between BMI and survival for patients with in-hospital cardiac arrests in the GWTG-R database.
   - Underweight: BMI <18.5 kg/m²
   - Normal: BMI 18.5 to 24.9 kg/m²
   - Overweight: BMI 25.0 to 29.9 kg/m²
   - Obese: BMI 30.0 to 34.9 kg/m²
   - Very obese: BMI >= 35.0 kg/m²

4. The primary outcome in this study was survival to hospital discharge (SDC).

5. The secondary outcomes looked at the 2 phases of overall survival—return of spontaneous circulation (ROSC) and postresuscitation survival.

6. 21,237 adult IHCA patients had available data on both height and weight from which BMI could be calculated
   - 4,499 (21.2%) had a shockable (ventricular fibrillation and pulseless ventricular tachycardia) initial rhythm
   - 16,738 (78.8%) had a non shockable (asystole and pulseless electrical activity) initial rhythm

7. The patients were grouped by BMI with most having normal BMI or were overweight
   - Normal 6 935 (32.7%)
   - Overweight 5 919 (27.9%)
   - Underweight 1 437 (6.8%)
   - Obese 3 412 (16.1%)
   - Very obese 3 534 (16.6%)

8. SDC was impacted by the initial CA rhythm
   - 1 825 (40.6%) SDC of patients with a shockable initial rhythm
   - 2 501 (14.9%) SDC of patients with a non shockable initial rhythm

9. SDC is associated with BMI
   - CA with an initial shockable rhythm SDC was highest in overweight and obese patients
     - Underweight, normal weight, and very obese patients had lower rates of SDC.
   - CA with an initial non shockable rhythm, SDC was lower in underweight patients compared to other groups

10. Future studies need to clarify the extent to which BMI affects the quality and effectiveness of resuscitation outcomes.

*GWTG-R, formerly NRCPR, is a performance improvement tool that can be used to identify and monitor key process variables and patient outcomes for in-hospital cardiac arrest.

http://circoutcomes.ahajournals.org/content/early/2010/08/10/CIRCOUTCOMES.109.912501
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