An Absurdly Random, and Completely Blind, Review and Prospective Validation of Mathematical Truisms in Emergency Medicine and Critical Care

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Study Objective. We thought that in the darkest part of night shifts, when the diurnal variation of our internal clocks is defunct and all organized neuronal electrical activity in the cerebrum has ceased, that mathematical truisms might be a valid tool in the assessment and treatment of the acutely ill, injured, or merely crazy patients in the emergency department (ED). Therefore, in support of evidence-based medicine, we sought to define and subsequently validate any mathematical information that may be clinically useful at 3 AM.

Methods. The initial phase of this megatrial was a retrospective review by multiple EMS personnel, nurses, and emergency physicians over a period of 10 years in Hawaii and Arizona. Data collection occurred in fire stations, EDs, bars, boats, and on surf breaks. The second phase of the trial was a prospective validation series of the mathematical information by this same author over the subsequent 20 years of working in an ED. Interrater reliability was irrelevant.

Results.
1. Pulse ox<age get an ETT or a DNR order fast
2. For adults: Pulse>systolic BP get the paddles
3. WBC>Hct culture every orifice and call infectious disease
4. Pulse<Hct don’t know what it means, but it’s a bad thing
5. For Peds: If the number of problems on their chart is>age, then it’s far too complicated to get involved; call Peds, but if chart weight>patient’s weight means it’s a genetic defect kid, so get a dictionary . . . then call Peds!
6. Bands>Segs=bad, see 3
7. The Tooth to Tattoo ratio . . . . If number of teeth still present<tattoos pt has guaranteed immortality, don’t sweat the resuscitation
8. Any stab wound through a tattoo is guaranteed to be lethal, so start sweating now.
9. BUN>Sodium=kidneys gone, call nephrology
10. Age>Systolic BP=not a good sight on a triage note, immediately go to dinner and let your partner get that chart
11. Allergies>4=drug seeker or psychosomatic . . . stay at dinner longer.
12. On an ABG, if pO2<pCO2=the patient is either an anaerobe or needs a great white snorkel in the lungs
13. 100–Age=Percent chance of going home from ED on any given visit
14. Respiratory rate>pulse=patient is either hyperventilating, on β-blockers, about to be arrested, or needs the great white snorkel (ETT)
15. SED rate>HcT . . . . Hhhmmm????? Haven’t a clue, but it will make some internist happy for years figuring it out
16. MedsX10>age, or Number of Problems on problem list+neds>age=automatic admit

Conclusion. Mathematical truisms can be a helpful tool in our fight for sanity and sensible decisions in the ED at all hours of the day and night. However, future studies at posh hotels in exotic locations, and sponsored by hospitals or drug companies, are definitely required.

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