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Administration of QTc Prolonging Medications in Emergency Department Patients with Prolonged QTc

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BACKGROUND

- ✘ QTc prolongation is associated with fatal arrhythmias including torsades de pointes (TdP) and sudden cardiac death
- ✘ Many medications given in the ED prolong QTc thus recognition of QTc prolongation may alter medication choice

Methods

Retrospective chart review of all ED patients who received an ECG for any reason during the 5 month period of June 2009 – October 2009 at a large volume, tertiary care center.

Inclusion Criteria: Patients with a computer generated QTc \geq 460 ms.

Exclusion Criteria: Bradycardia (HR < 60 bpm)

Tachycardia (HR > 100 bpm)

QRS > 120 ms

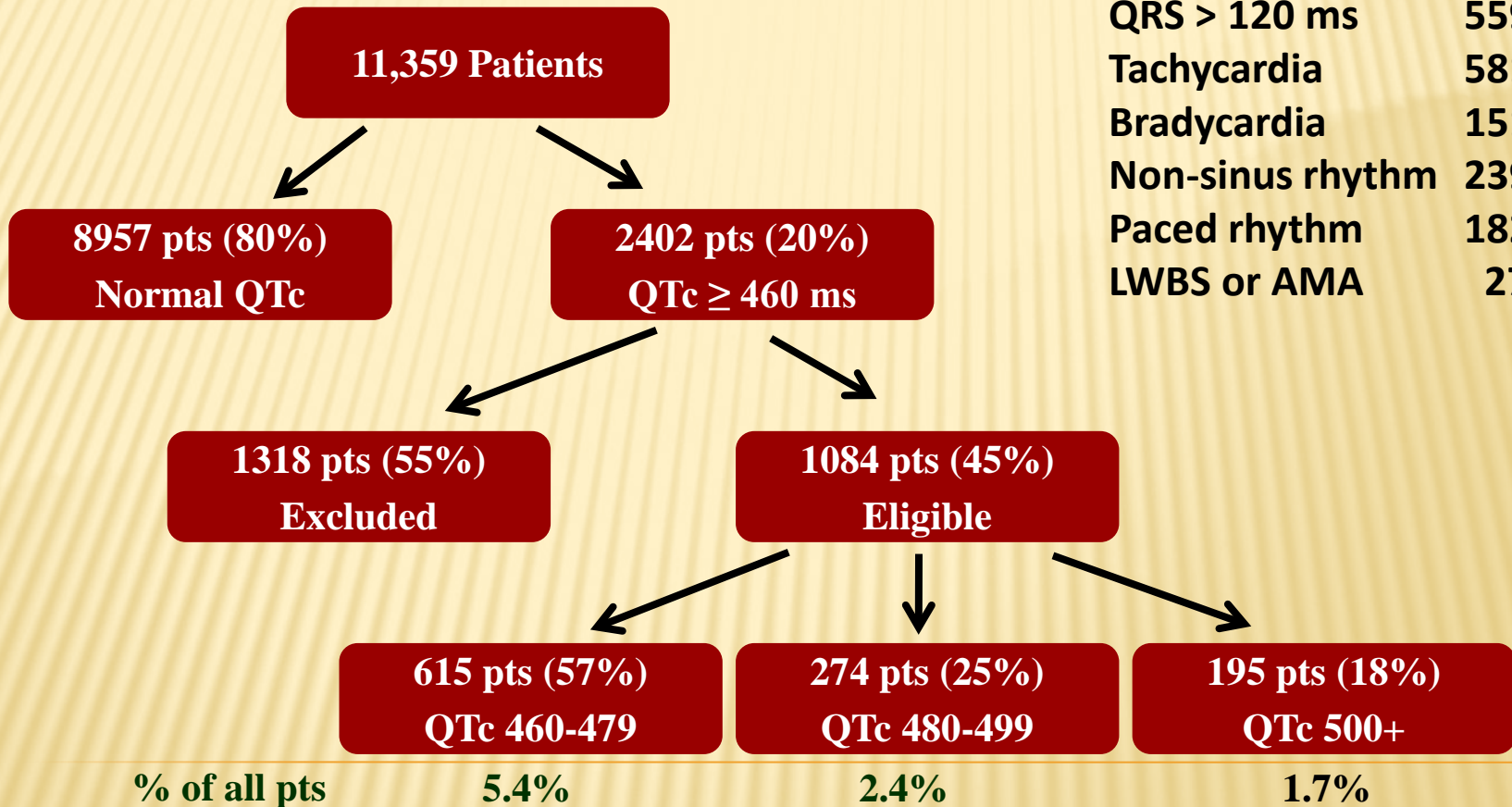
Non-sinus or paced rhythm

Patients who left without being seen or against medical advice

ED electronic medical records were reviewed for medications administered in the ED. QTc prolonging medications were defined as those listed by the Arizona Center for Education and Research on Therapeutics (AzCERT) and were classified as Class 1 (causes TdP), Class 2 (prolong QTc and reported to cause TdP), and Class 3 (prolong QTc and could cause TdP) as defined by AzCERT

Statistical Analysis - Data is expressed as proportion \pm 95% confidence intervals. Data was compared among groups using a Chi-squared test.

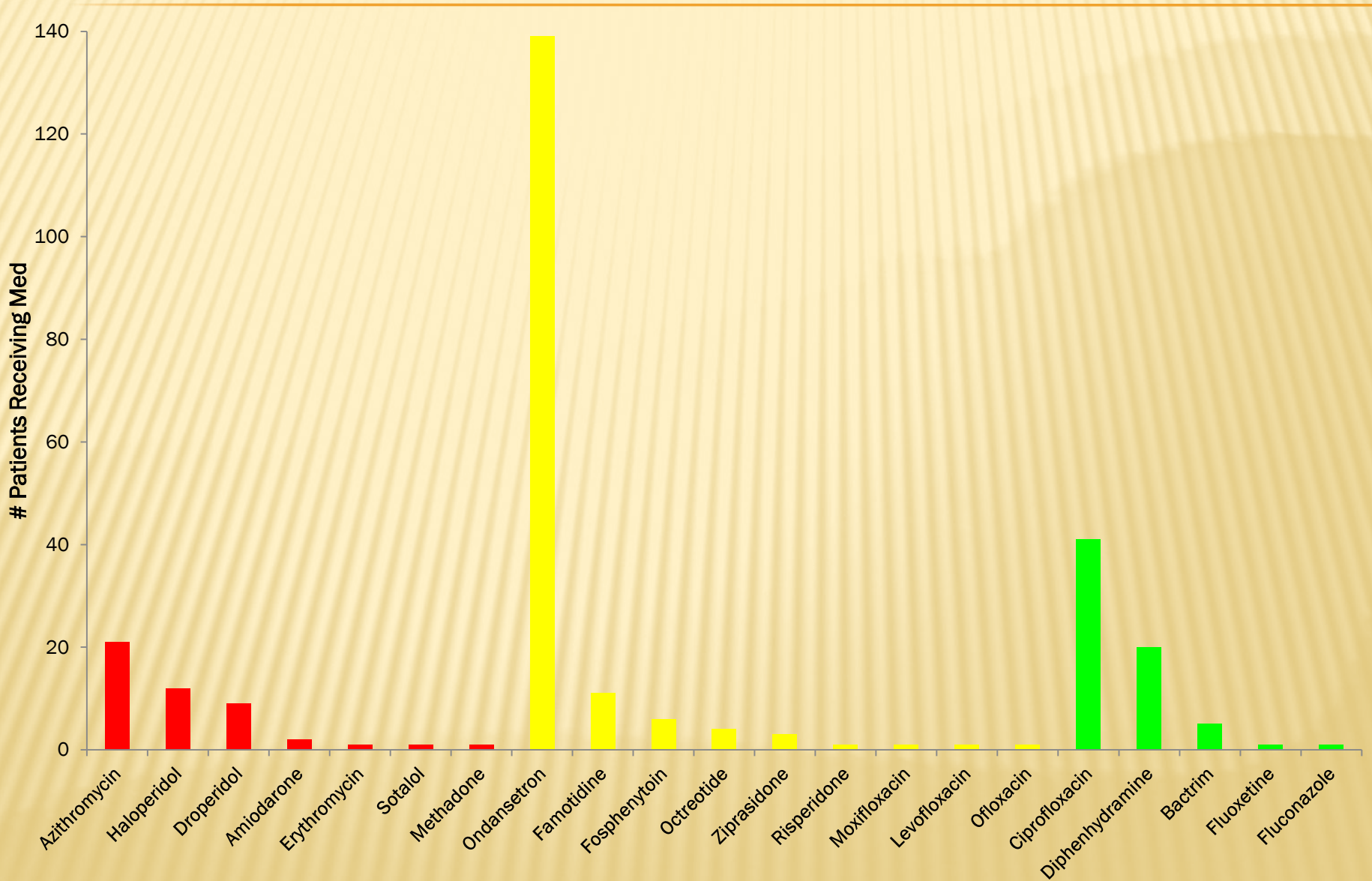
RESULTS



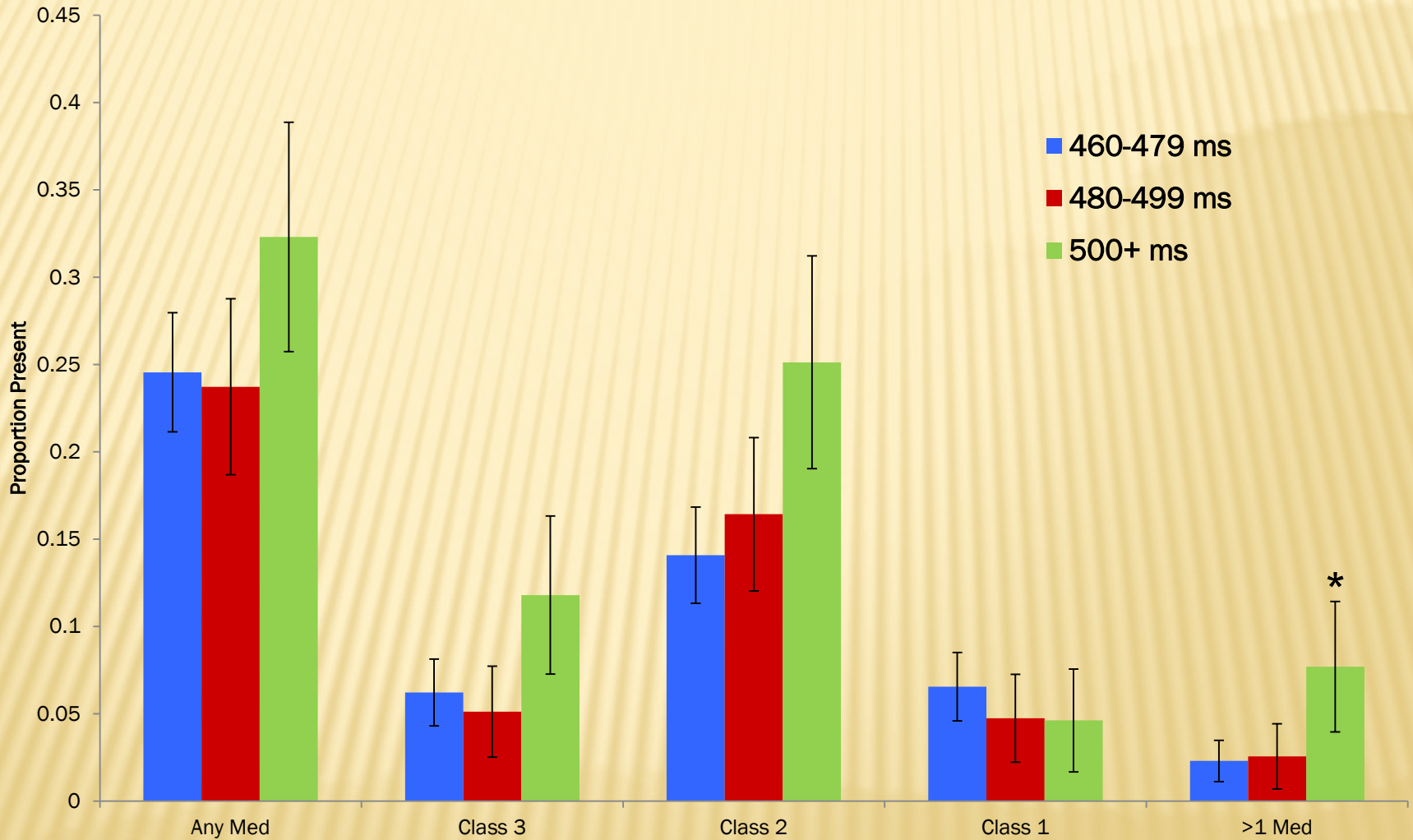
Excluded Patients

QRS > 120 ms	559 pts
Tachycardia	581 pts
Bradycardia	151 pts
Non-sinus rhythm	239 pts
Paced rhythm	182 pts
LWBS or AMA	27 pts

Drug Classes Administered

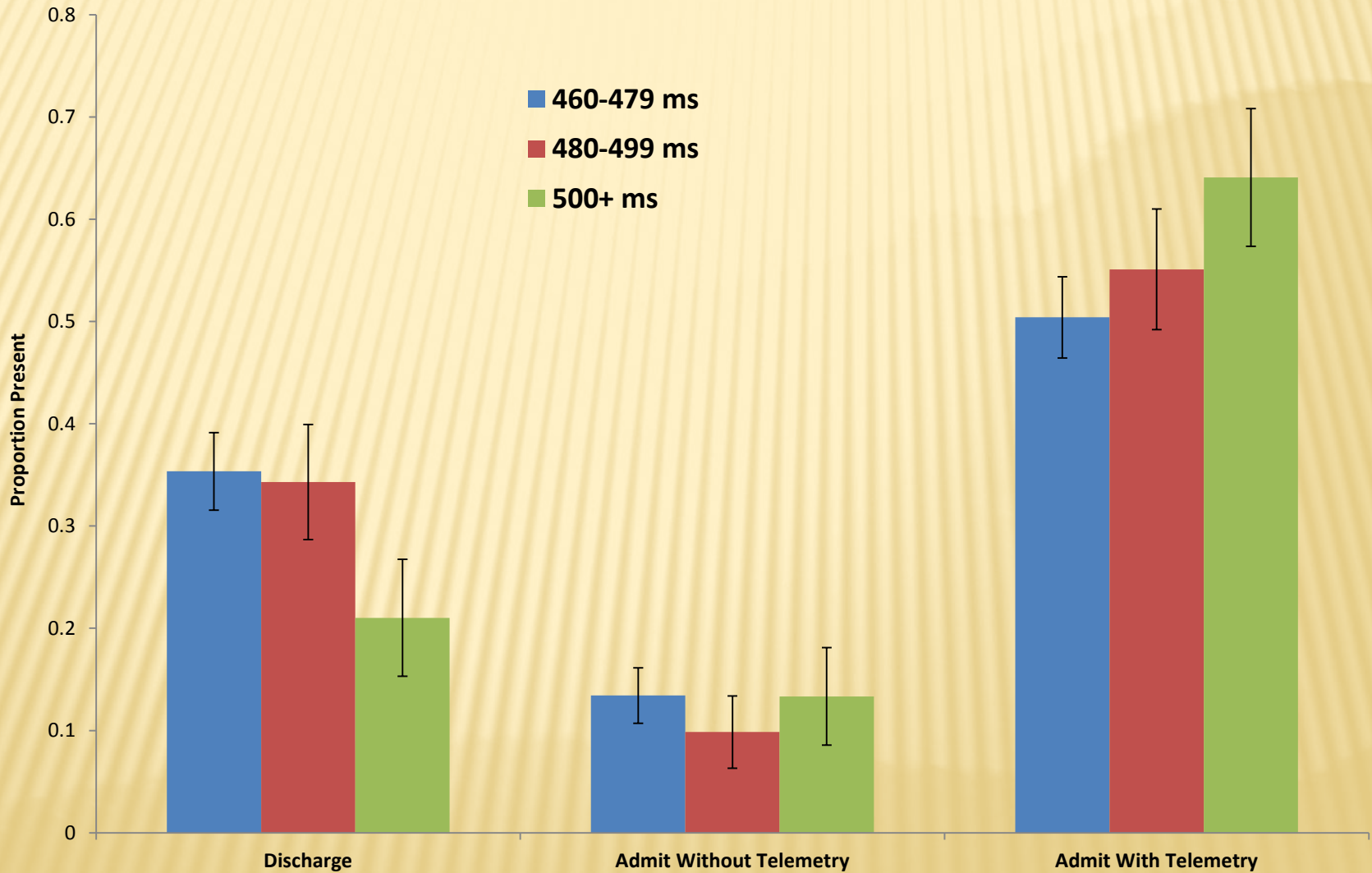


Medications Received



*p<0.01

Patient Disposition



Conclusion

- ✘ Administration of QTc prolonging medications is common in ED patients with prolonged QTc
- ✘ Patients with the most prolonged QTc were at highest risk of receiving multiple QTc prolonging medications
- ✘ Further studies needed to determine if the administration of QTc prolonging medications in patients with prolonged QTc increases the risk of cardiac dysrhythmias

Bibliography

- ✘ Golzari, H. “Prolonged QTc intervals on admission electrocardiograms: prevalence and correspondence with admission electrolyte abnormalities.” *Connecticut Medicine*. 7 (2007): 389-97.
- ✘ Schulman M. “Hypokalemia and cardiovascular disease.” *American Journal of Cardiology*. 65 (1990): 4E-9E.
- ✘ Seftchick, Michael. “The prevalence and factors associated with QTc prolongation among emergency department patients.” *Annals of Emergency Medicine*. 54 (2009). 763-768.
- ✘ Taylor, D. “Cocaine induced prolongation of the QT interval.” *Emergency Medicine Journal*. 21 (2004): 252-253.