



Poison HOTLINE

Partnership between Iowa Health System and
University of Iowa Hospitals and Clinics

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Did you know

The ISPCC is staffed by twelve registered nurses, with an average of 15 years critical care background (i.e.: ICU, ER, CCU). Nine of the nurses are certified specialists in poison information (CSPI).

Medical direction at the ISPCC is handled by two Board-certified toxicologists. ISPCC Medical Director, Dr. Ed Bottei, is the only toxicologist in the state of Iowa and Dr. Howard Burns, the ISPCC's Associate Medical Director, is the only toxicologist in the state of South Dakota. These two toxicologists provide medical oversight on the ISPCC cases 24 hours a day.

Why the Poison Control Center follows the QRS and QT/QTc measurements

There are many drugs which can affect cardiac conduction and these effects can be seen in changes in the duration of the QRS and QT/QTc intervals on the EKG. The duration of these intervals can be taken directly from a 12-lead EKG readout or can be measured manually from a rhythm strip. When measured from a rhythm strip, the QRS is measured from the beginning of the Q wave to the end of the S wave. The QT is measured from the beginning of the Q wave to the end of the T wave. The duration of the QT interval is dependant upon heart rate: the faster the HR, the shorter the QT; the slower the HR, the longer the QT. The QTc is the QT interval corrected for the HR.

The normal QRS is less than 120 mSec. Ingestion of drugs which block sodium channels can cause widening of the QRS. Widening of the QRS can be predictive of complications in some drug overdoses. The treatment for sodium channel blockade includes the administration of hypertonic sodium bicarbonate. It is important to note sodium bicarbonate should be mixed in D5W, and not in NS, to avoid infusing large quantities of sodium.

Partial List of Common Drugs Which Can Prolong the QRS interval:

Amitriptyline	Diphenhydramine	Propranolol
Bupropion	Procainamide	Quinidine
Cocaine	Propoxphene	Thioridazine

The QT interval reflects ventricular repolarization and is influenced by flow of potassium out of the cells. The upper limits of normal for the QTc are generally accepted to be 440 – 470 mSec. A prolonged QT makes the heart vulnerable to ventricular dysrhythmias. Treatment for prolonged QTc includes: stop all offending drugs; correct hypokalemia, hypocalcaemia, hypomagnesaemia; supplemental magnesium; and appropriate treatment for Torsade de Pointes.

Partial List of Common Drugs Which Can Prolong the QT interval:

Amiodarone	Haloperidol	Pentamidine
Clarithromycin	Mesoridazine	Procainamide
Droperidol	Methadone	Sparfloxacin

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