
tachyarrhythmias in infants and children under age of 10 years

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Normal rhythmic cardiac contraction is initiated by spontaneous depolarization of the sinoatrial node. This depolarization generates an impulse that spreads sequentially through the atrial wall and specialized internodal tracts to the atrioventricular node, and then to the His bundle and its branches to reach the Purkinje network and to excite the ventricular muscle. Tachyarrhythmias are defined as the rates which are more rapid than normal, regular or irregular, arising from the sinus node, the atria, the atrioventricular junction or the ventricles (Moss and Adames, 1968). When an ectopic focus generates an impulse faster than the sinus discharge rate, it assumes control of the heart and ectopic tachycardia results. From an electrophysiologic standpoint there is evidence for both reentry and automatic ectopic focus mechanisms to account for the pathologic tachycardias (Courtney, 1980). It is traditional to divide the tachyarrhythmias according to whether the pacemaker (reentrant or automatic ectopic) is above or below the His bundle bifurcation: supraventricular and ventricular. Such categorization is useful because of etiologic and therapeutic differences.