

POSTER 059.
An Outcome-Based Analysis of Intermediate Priority Ambulance Dispatches

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Purpose: To determine the outcome of patients whose request for EMS was identified as a nonlife-threatening emergency and dispatched as intermediate priority (IP).

Methods: This was a retrospective review of randomly selected medical records conducted from 01 December 1993 through 31 October 1994. Cases included those for which IP was assigned to a request for EMS by emergency medical dispatchers using a standardized ambulance dispatch protocol. Emergency medical services requests from nursing homes and other health-care facilities were excluded.

Results: During the study period, a total of 14,445 EMS requests were received. Of these 926 (6.4%) were dispatched as IP. Three hundred forty-three cases were selected for review. Data were available for 296 cases. Eight (2.7%) cases received advanced life support (ALS) at the scene, 12 (4.1%) received ALS en route to the hospital, and 16 (5.4%) received ALS within the first 30 minutes of emergency department (ED) arrival. Two patients (0.7%) presented in cardiac arrest upon EMS arrival and did not survive. Both of these cases involved major dispatch protocol violations. Except for these cardiac arrest patients, none required resuscitation. Of the patients, 294 (99.3%) survived to hospital admission or ED discharge. Of the patients, 220 (74.3%) were discharged from the ED. Of the 74 (25%) patients admitted, 66 (89.2%) were admitted to noncritical-care units, six (8.1%) were admitted to critical-care units, and two (2.7%) were admitted to the operating room.

Conclusion: In our system, IP EMS dispatches were relatively infrequent. While many of these patients ultimately were admitted to the hospital, few required prehospital ALS or critical-care admission. Properly applied dispatch protocols may identify safely those patients who do not have immediately life-threatening conditions.

POSTER 067.
A Description of the Systemwide Application of Transcutaneous Cardiac Pacing in an Urban EMS System.

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Objective: Transcutaneous cardiac pacing (TCP) is known to be efficacious in sustaining patients with high-degree atrioventricular block. The purpose of this study was to describe EMS systemwide application of TCP and determine its cost effectiveness.

Methods: We performed a retrospective review of patient records from an urban, municipal, advanced life-support (ALS) EMS system during the first year (1993) of systemwide application of TCP. From each record, we determined patient age and gender; cardiac rhythm, heart rate (HR), and systolic blood pressure (SBP) prior to pacing; absence or presence of a pulse while pacing; time interval to a hospital while pacing; HR and SBP during pacing and on arrival at the hospital. We determined the fixed and variable costs to the system for implementing and maintaining the TCPs.

Results: During the study period, the EMS system responded to 60,242 emergency calls. Transcutaneous pacing pads were applied to 69 patients, and TCP was attempted for 60 patients (mean \pm SD age 67.1 \pm 14.7 years).

Cardiac Rhythm	Rhythm Prior to Transcutaneous Cardiac Pacing					
	Asystole	Idioventricular	3° AV Block	2° Type II AV Block	Junctional	Unspecified Bradycardia
TCP Attempted (% of attempts)	13 (21.6%)	31 (51.6%)	4 (6.6%)	2 (3.3%)	3 (5%)	5 (8.3%)
Successful TCP (% per rhythm)	0 (0%)	3 (9.6%)	4 (100%)	1 (50%)	1 (33%)	2 (40%)

Transcutaneous cardiac pacing resulted in a positive outcome for 11 patients who achieved and maintained electromechanical capture and a pulse until arrival at a hospital (mean age 66 \pm 8 years). For this group the mean HR and SBP were 44 \pm 38 beats per minute (BPM) and 31 \pm 38 mm Hg, respectively prior to pacing and were 78 \pm 28 BPM and 101.2 \pm 36.7 mmHg, respectively, on arrival at the hospital. These patients were paced for 10.5 \pm 10 minutes prior to the hospital. The annual cost of TCP for the EMS system was [US] \$5,435 (\$4,400 fixed costs, plus \$1,035 variable costs).

Conclusion: The results suggest that TCP is a valuable adjunct for patients suffering from atrioventricular blocks and junctional rhythms, but not for idioventricular or asystolic rhythms. For this urban EMS system the cost of TCP is approximately \$494 per positive patient outcome.