if they reach the patient before the emergency physician and if they are trained extensively and supervised continuously.

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Arrest Interval (IA) Determines the Efficacy of Sodium Bicarbonate (HCO_3) Ventricular Fibrillation

Bircher NG, Vukmir RB, Radovsky A, Safar P
International Resuscitation Research Center,
Department of Anesthesiology and Critical Care Medicine
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Objective: To determine whether or not treatment with sodium bicarbonate (HCO_3) alters outcome after I_A of 5, 10, or 15 minutes (min) of VF.
Methods: Seventy-two dogs were anesthetized with halothane/N_2O/O_2. Monitored were: femoral and pulmonary arterial and right atrial pressures; cardiac output; arterial blood gases; ECG; urine output; and expired CO_2. After 5, 10, or 15 min VF without CPR, resuscitation consisted of advanced cardiac life support protocols including epinephrine (0.1 mg/kg) and norepinephrine after restoration of spontaneous circulation (ROSC). In the HCO_3 groups, one mEq/kg was given and then base deficit (BD) corrected to ±5 Meq/L. All animals were necropsied after the final neurological deficit score (NDS: 0% = normal, 100% = brain dead) determination. Mean arterial (MAP/CPR) and coronary perfusion (CPP/CPR) pressures were compared prior to Return of Spontaneous Circulation (ROSC) or at 5 min of CPR.

Results:

Arrest Interval (IA)	5 minutes		10 minutes		15 minutes	
	HCO_3	Control	HCO_3	Control	HCO_3	Control
N/group	6	6	20	20	10	10
ROSC****	6	6	20	*15	9	*3
24 HR SURV****	5	5	19	*11	7	*1
24 HR NDS****	18	*43	27	*65	72	*99
pHa, 52mm	7.29	7.22	7.26	7.20	7.27	*7.11
$PaCO_2$, 52mm	39	32	50	37	43	38
BD, 52mm	8.1	*14.6	5.5	*14.3	7.3	*16.3
MAP/CPR***	77	58	82	*64	49	*28
CPP/CPR***	62	45	34	18	36	*15

*between group differences at each I_A; overall effects: **HCO_3; ***HCO_3 and I_A; ****HCO_3 and I_A with interaction, all $p < .05$).

ROSC was more frequent and 24-hour survival better with HCO_3 administration with increasing efficacy as I_A increased. NDS was reduced by HCO_3 and was increased by I_A, with a reduction in the effect of I_A by HCO_3 administration.
Conclusion: These data suggest that the administration of HCO_3 improves outcome overall and this effect is greater after prolonged I_A.

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Does Age Affect the Outcome of Prehospital Resuscitation?

Wuerz RC, Vazquez-de Miguel G, Holliman CJ, Meador SA, Swope GE
The Pennsylvania State University
Hershey, Pennsylvania, USA

Objective: To compare resuscitation outcomes in elderly (E, >65 years old) and younger (Y, 30–65 years old) prehospital cardiac arrest victims.
Design: Retrospective case series over a four-year period.
Setting: Rural, advanced life support (ALS) units; university hospital.
Participants: Field resuscitation (n = 563) of adults; excluded were those with unknown initial rhythms (n = 31), non-cardiac etiologies, and age <30 years.
Interventions: Patients were grouped by age. Return of spontaneous circulation (ROSC) and survival to hospital discharge were compared by chi-square and Fisher's exact test. ALS treatment of cardiac arrest was by regional protocol and on-line [direct] physician command.
Results: Sixty percent (320/532) of patients were elderly. The proportion with initial rhythm ventricular fibrillation (VF) was 50% for elderly and 48% for younger patients (p = NS).

	ROSC (%)			
Group	Elderly	Younger	Elderly	Younger
All (n = 532)*	17.8	15.8	4.2	4.9
VF (n = 258)	26.1	18.8	8.3	8.9
EMD (n = 101)	14.7	23.1	1.3	0
Asystole (n = 173)	7.1	9.3	0	1.3

p = NS for each comparison
*power: 80 for a 50% difference (ROSC) and 80% (survival)

Twelve of the younger and 16 of the elderly survived; the oldest survivor was 87 years old. In VF patients who received CPR <8 min, the elderly had better ROSC (50% vs 18.5%, p =.008), but the same rate of survival (22.5% vs 18.5%, p = NS).
Conclusions: Age over 65 years has less effect on resuscitation outcomes than does initial rhythm, early CPR, and early defibrillation. Analysis of outcomes using other age cutoffs yielded similar results. Advanced age alone should not deter resuscitation attempts.