



Burns Resources and Considerations

Fluid Formula and Chart



Formula for Fluid Resuscitation of the Burn Patient (Also known as the Parkland Formula)	Wt (lbs)	Wt (kg)	% TBSA	/Hr for 1st 8 Hrs of Care	60 gtt set, gtt/min	20 gtt set, gtt/min	15 gtt set, gtt/min	10 gtt set, gtt/min
Pts Wt kg x %TBSA x 4.0cc LR infused over 24 hours with half given in the first 8 hours.	22	10	10	25	25	8.3	6.3	4.2
	22	10	20	50	50	16.7	12.5	8.3
	22	10	30	75	75	25.0	18.8	12.5
(For the equation, the abbreviations are: PW x TBSA x 4.0 cc)	22	10	40	100	100	33.3	25.0	16.7
	22	10	50	125	125	41.7	31.3	20.8
EMS focuses on the care given during the 1st hour or several hours following the event. Thus the formula as adapted for EMS and the first 8 hours is:	44	20	10	50	50	16.7	12.5	8.3
	44	20	20	100	100	33.3	25.0	16.7
	44	20	30	150	150	50.0	37.5	25.0
	44	20	40	200	200	66.7	50.0	33.3
PW x TBSA x 4.0 cc, divide by 2	44	20	50	250	250	83.3	62.5	41.7
to take this to the hourly rate, divide that solution by 8 and the equation becomes:	66	30	10	75	75	25.0	18.8	12.5
	66	30	20	150	150	50.0	37.5	25.0
	66	30	30	225	225	75.0	56.3	37.5
PW x TBSA x 4.0cc / 2 / 8 = total to be infused for each of the first 8 hours.	66	30	40	300	300	100.0	75.0	50.0
	66	30	50	375	375	125.0	93.8	62.5
Another way to state the equation is to use: PW x TBSA x 0.25cc = total to be infused for each hour of the first 8 hours.	88	40	10	100	100	33.3	25.0	16.7
	88	40	20	200	200	66.7	50.0	33.3
	88	40	30	300	300	100.0	75.0	50.0
	88	40	40	400	400	133.3	100.0	66.7
	88	40	50	500	500	166.7	125.0	83.3
<u>Example, 80 kg (198 lb) patient with 50 %TBSA x 0.25</u>	110	50	10	125	125	41.7	31.3	20.8
<u>cc =</u>	110	50	20	250	250	83.3	62.5	41.7
<u>1000 cc/hr.</u>	110	50	30	375	375	125.0	93.8	62.5
<u>Two IV's are started, thus</u>	110	50	40	500	500	166.7	125.0	83.3
<u>each are running at 500 cc/hr</u>	110	50	50	625	625	208.3	156.3	104.2
<u>per IV.</u>	132	60	10	150	150	50.0	37.5	25.0
	132	60	20	300	300	100.0	75.0	50.0
	132	60	30	450	450	150.0	112.5	75.0
Remember:	132	60	40	600	600	200.0	150.0	100.0
Patient's Weight in kg (2.2 lbs = 1.0 kg)	132	60	50	750	750	250.0	187.5	125.0
example: 220 lbs adult = 100 kg	154	70	10	175	175	58.3	43.8	29.2
% TBSA = Rule of Nine Total Body Surface Area	154	70	20	350	350	116.7	87.5	58.3
	154	70	30	525	525	175.0	131.3	87.5
Factor for the 1st hr. and each hr. for the 1st 8 hrs. = 0.25	154	70	40	700	700	233.3	175.0	116.7
	154	70	50	875	875	291.7	218.8	145.8
Reminder, if two IV's are running, divide total amount to be infused each hr. by 2	176	80	10	200	200	66.7	50.0	33.3
	176	80	20	400	400	133.3	100.0	66.7
	176	80	30	600	600	200.0	150.0	100.0
	176	80	40	800	800	266.7	200.0	133.3
	176	80	50	1000	1000	333.3	250.0	166.7
Also, this is based on a timely response following the burn event. If there is a delay between the time of the burn event and the initiation of fluid therapy, the patient should be bolused to compensate for the delay.	198	90	10	225	225	75.0	56.3	37.5
	198	90	20	450	450	150.0	112.5	75.0
	198	90	30	675	675	225.0	168.8	112.5
	198	90	40	900	900	300.0	225.0	150.0
	198	90	50	1125	1125	375.0	281.3	187.5
As an example, a delay occurs of two hours before fluid therapy can start for an 80 kg (198 lb) patient with 50% TBSA x .25 = 1000 cc/hr.	220	100	10	250	250	83.3	62.5	41.7
Thus the patient receives a fluid bolus of 2000 cc and a maintenance infusion of 1000 cc/hr is initiated.	220	100	20	500	500	166.7	125.0	83.3
	220	100	30	750	750	250.0	187.5	125.0
	220	100	40	1000	1000	333.3	250.0	166.7
	220	100	50	1250	1250	416.7	312.5	208.3