INTENSIVE CARE UNIT
Adult Acute Burn Fluid Resuscitation Guidelines
(only for burn TBSA>15%)
To be used by ITU ON CALL DOCTOR in liaison with Nursing Staff

These guidelines offer pathways to attempt to achieve a reasonable urine output during shock burn resuscitation. They only suggest actions to be taken and should be used in conjunction with good clinical judgment.

REFERENCE POINTS (see guidelines algorithm)

① Burn injury patients admitted to intensive care usually suffer from inhalation injuries also. There is evidence to state that patients suffering with inhalation injuries should not be given albumin within 8 hours of injury, therefore, burn patients with concurrent inhalation injuries should stay on Hartmann’s Solution for resuscitation fluid until >8 hours post initial burn injury.

② In the average adult patient we are aiming for a urine output of:

\[0.5-1\text{ml/kg/hr} = \text{average adult patient}\]

However, care should be taken when treating patients >65yrs where the target urine output should be:

\[0.25-0.5\text{ml/kg/hr} = \text{patients >65yrs}\]

③ Serum albumin has been used as a prognostic tool in intensive care settings. Our unit aims to correct hypoalbuminemia prior to administering vasopressors/inotropes to maintain systemic circulation.
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**Phase 1**
0 - 8 hours

Measure urine output hourly

<table>
<thead>
<tr>
<th>Urine output</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30ml</td>
<td>Increase infusion rate by 10% or 100ml/hr</td>
</tr>
<tr>
<td>30-50ml</td>
<td>Stay at current infusion rate</td>
</tr>
<tr>
<td>50-150ml</td>
<td>Decrease infusion rate by 10% or 100ml/hr</td>
</tr>
<tr>
<td>&gt; 150ml</td>
<td>Decrease infusion rate every ½ hour by 10% or 100ml/hr</td>
</tr>
</tbody>
</table>

Stay on Parkland Formula
\[(1.5 \text{ ml/Kg} / \text{TBSA})\]
Divide figure by 8 for hourly fluid requirements in first 8 hours.

Check urine output hourly

Urine output <30ml/hour for 2 hours despite an increase in fluid

Go to Phase 2

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Mr. M.I. James – Dr. T. Mahambrey - Dr. F. Andrews – Dr. P. Jeanrenaud - Miss S. Yao. - Sr. D. Wilkinson
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Phase 2
8-24 hours

Stay on Parkland Formula
(1.5 ml/Kg / TBSA)
Divide figure by 16 for hourly fluid requirements in hours 8 – 24.

Measure urine output hourly

Urine output < 30ml
Increase infusion rate by 10% or 100ml/hr

Urine output 30-50ml
Stay at current infusion rate

Urine output 50-150ml
Decrease infusion rate by 10% or 100ml/hr

Urine output > 150ml
Decrease infusion rate every ½ hour by 10% or 100ml/hr

Check urine output hourly

Patient is ≥ 8 hours post burn injury
Urine output satisfactory

No

Go to
PLANNED ALBUMIN RESCUE IF REDUCED OUTPUT
Page 4

Yes

What is the serum albumin?

< 20-22g/L
Give 100ml of 20% Human Albumin Solution over 1 hour

≥ 20-22g/L
Check serum albumin 8 hourly

Replace to keep serum albumin ≥ 20-22g/L

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PLANNED ALBUMIN RESCUE
IF REDUCED OUTPUT

Urine output <30ml/hour for 2 hours despite an increase in fluid

Add 100ml of 20% Human Albumin Solution over 1 hour to fluid regime.

Check observations including urine output

Urine output still <30ml/hour

Consider a further 100ml of 20% Human Albumin Solution over 1 hour

Urine output still <30ml/hour

Patient has maintained urine output for 2 hours AND is 24 hours post injury

Fluid resuscitation is COMPLETE

Contact ICU Consultant to review. Consider PICCO and Inatropes

At any stage in Phase 2 if projected amount for 24 hours is 75ml/kg/hrs patient is at risk of Abdominal Compartment Syndrome.

FOLLOW INTENSIVE CARE UNIT ACS PROTOCOL

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