



SimSTaR

Travel safely



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Paediatrics



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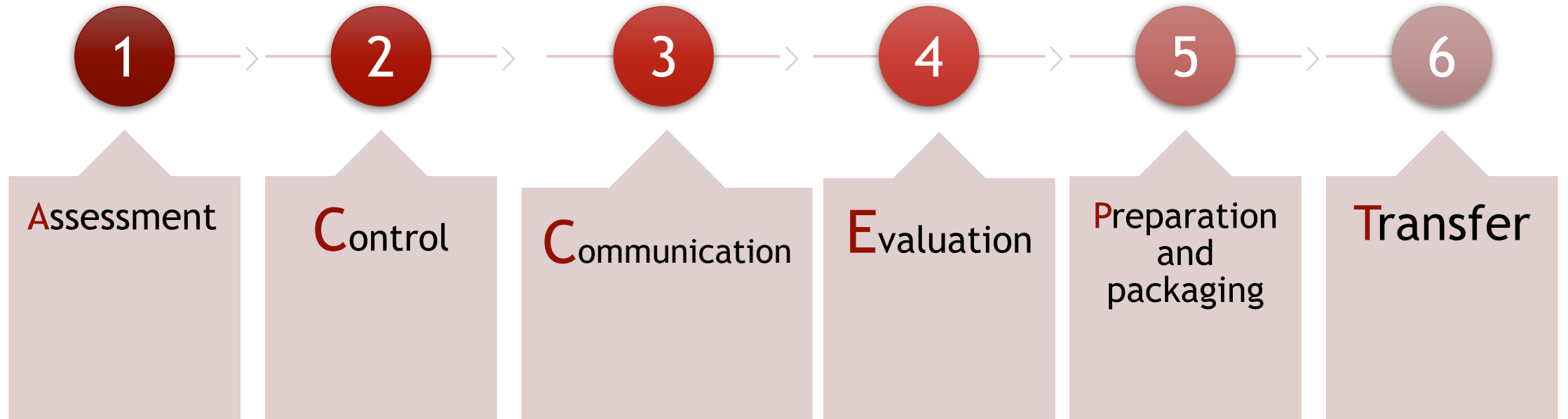
Patient groups
Basic principles
Logistics

Overview

Presentations

- Severe anaphylaxis
- Burns
- Meningitis/encephalitis
- Sepsis
- Croup/bronchiolitis
- Status - epilepticus & asthmaticus
- **Head injuries**
- Trauma







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4 year old boy

Scooter vs car

HR 150 BP 72/37 (46)

SaO₂ 96% 10L O₂ RR 10

Groaning with
abnormal flexion in
response to pain

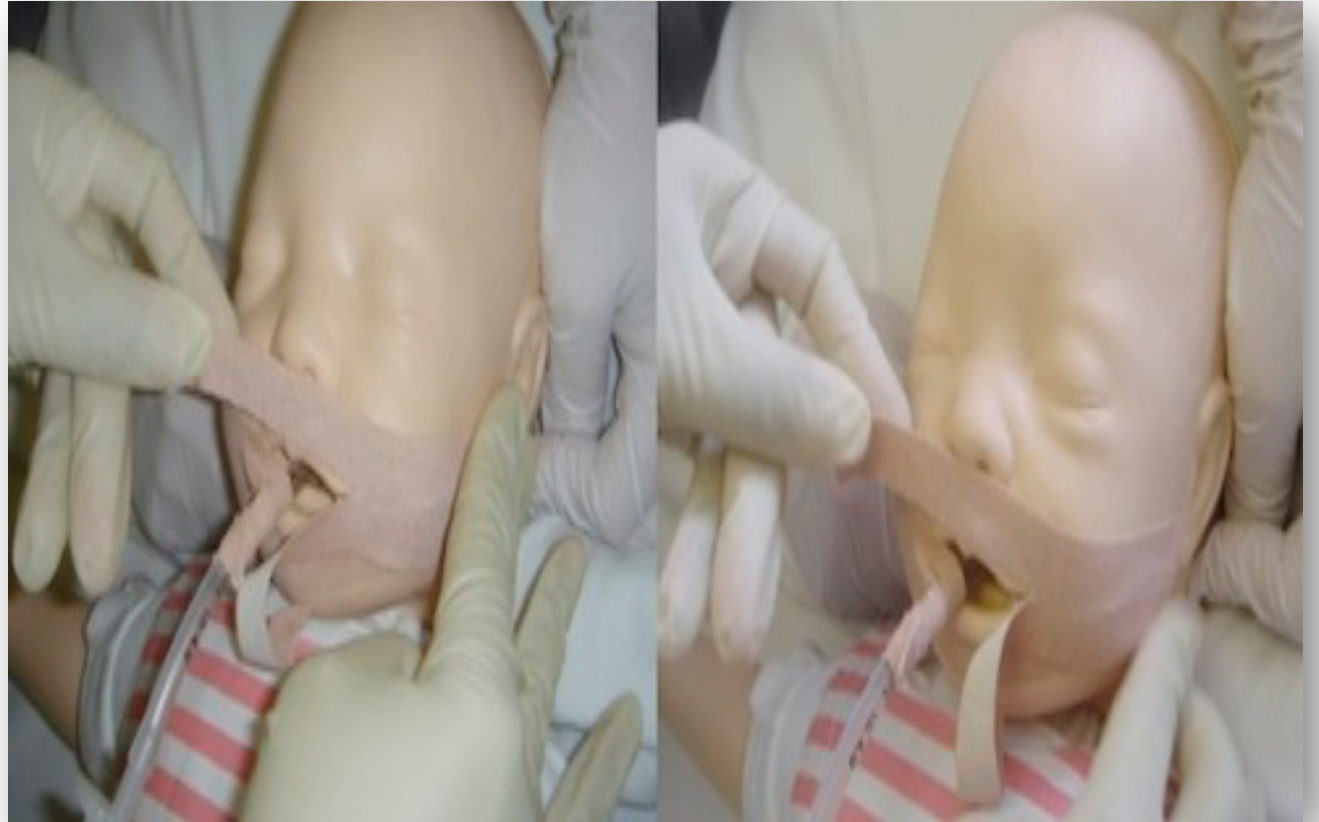
Paediatric patient

AIRWAY

ETT size = (age/4) + 4
(3.5 if microcuff)

ETT length (cm) = (Age/2) + 12
(15 if nasal)

Bougie size depends on ETT
internal diameter



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AIRWAY

- Prepare for difficult airway



iGel

i-gel size	Patient size	Patient weight guidance (kg)
1	Neonate	2-5
1.5	Infant	5-12
2	Small paediatric	10-25
2.5	Large paediatric	25-35
3	Small adult	30-60
4	Medium adult	50-90
5	Large adult+	90+



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BREATHING

- Work of breathing
- Accessory muscle use
- Head bobbing
- Nasal flaring
- Grunting

Age	RR at rest bpm
Birth - 3 months	25 - 50
3 - 12 months	20 - 40
12 - 24 months	20 - 35
2 - 7 years	20 - 30
7 - 11 years	15 - 25
> 12 years	12 - 24



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BREATHING

- DO NOT hand ventilate for transfer
- Tidal volumes 5-7mls/kg
- Capillary or arterial blood gases
- Monitoring



CIRCULATION

Age	HR bpm	SBP mmHg
Birth	120-170	65-105
1 month		
3 months	115-160	
6 months	110-160	
12 months		70-105
18 months	100-155	
2 years	100-150	70-110
3 years	90-140	
4 years	80-135	
5 years		80-120
6 years	80-130	
8 years	70-120	
11 years		
12 years	65-115	90-140
14 years	60-110	
adult		

SHOCK ASSESSMENT

- Remember hypotension is a late sign

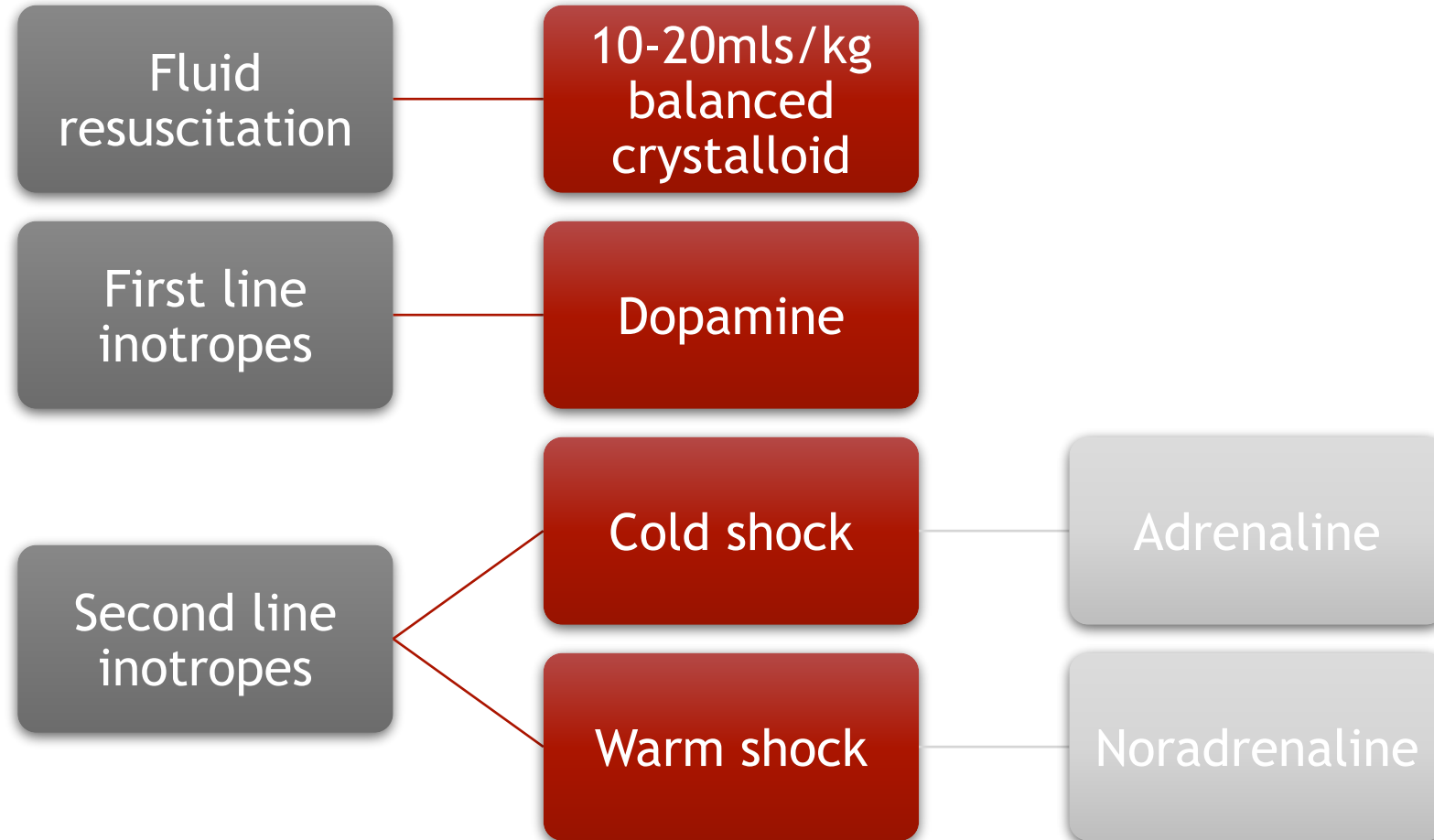
	Mild Dehydration	Moderate Dehydration	Severe Dehydration
Heart Rate	Normal	Slight increase	Significant tachycardia
Capillary refill	Normal	Around 2 seconds	>3 seconds
Peripheral pulses	Normal	Slightly decreased	Difficult to palpate
Urine output	Normal	Decreased	Little or none
Fontanelle	Flat	Soft	Sunken
Eyes	Normal	Normal	Sunken
Mucus membranes	Normal	Dry	Extremely dry
Tear production	Normal	Diminished	No tears



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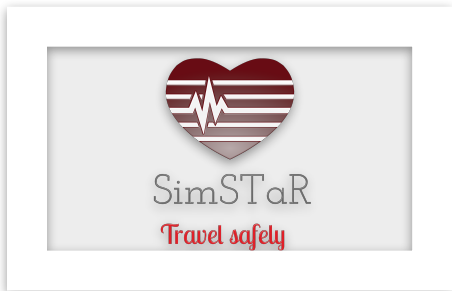
CIRCULATION





Age	Estimated Blood Volume (mls/kg)
Preterm newborn	90 - 100
Term newborn - 3 months	80 - 90
3 months - 2 years	70 - 80
> 2 years	70

Neurological assessment



PAEDIATRIC GLASGOW COMA SCALE				
	> 1 year		<1 year	Score
Eye Opening	Spontaneously		Spontaneously	4
	To verbal command		To shout	3
	To pain		To pain	2
	No response		No response	1
Motor response	Obeys		Spontaneous	6
	Localises pain		Localises pain	5
	Flexion - withdrawal		Flexion - withdrawal	4
	Flexion - abnormal (decorticate)		Flexion - abnormal (decorticate)	3
	Extension (decerebrate)		Extension (decerebrate)	2
	No response		No response	1
Verbal response	> 5 years	2 - 5 years	0 - 23 months	
	Orientated	Appropriate words/phrases	Smiles/coos appropriately	5
	Disorientated confused	Inappropriate words	Cries, is consolable	4
	Inappropriate words	Persistent crys and screams	Persistent inappropriate crying or screaming	3
	Incomprehensible sounds	grunts	Grunts, agitated, restless	2
	No response	No response	No response	1



Disability

- Adequate sedation, analgesia, paralysis
 - Morphine & midazolam
- Seizure control
- Neuroprotection
 - CPP
 - ICP - usually 3ml/kg of 3% Saline in paediatrics if osmotherapy required

Exposure

- Temperature control
- Glucose
 - 2mls/kg 10% dextrose



Ready to transfer?

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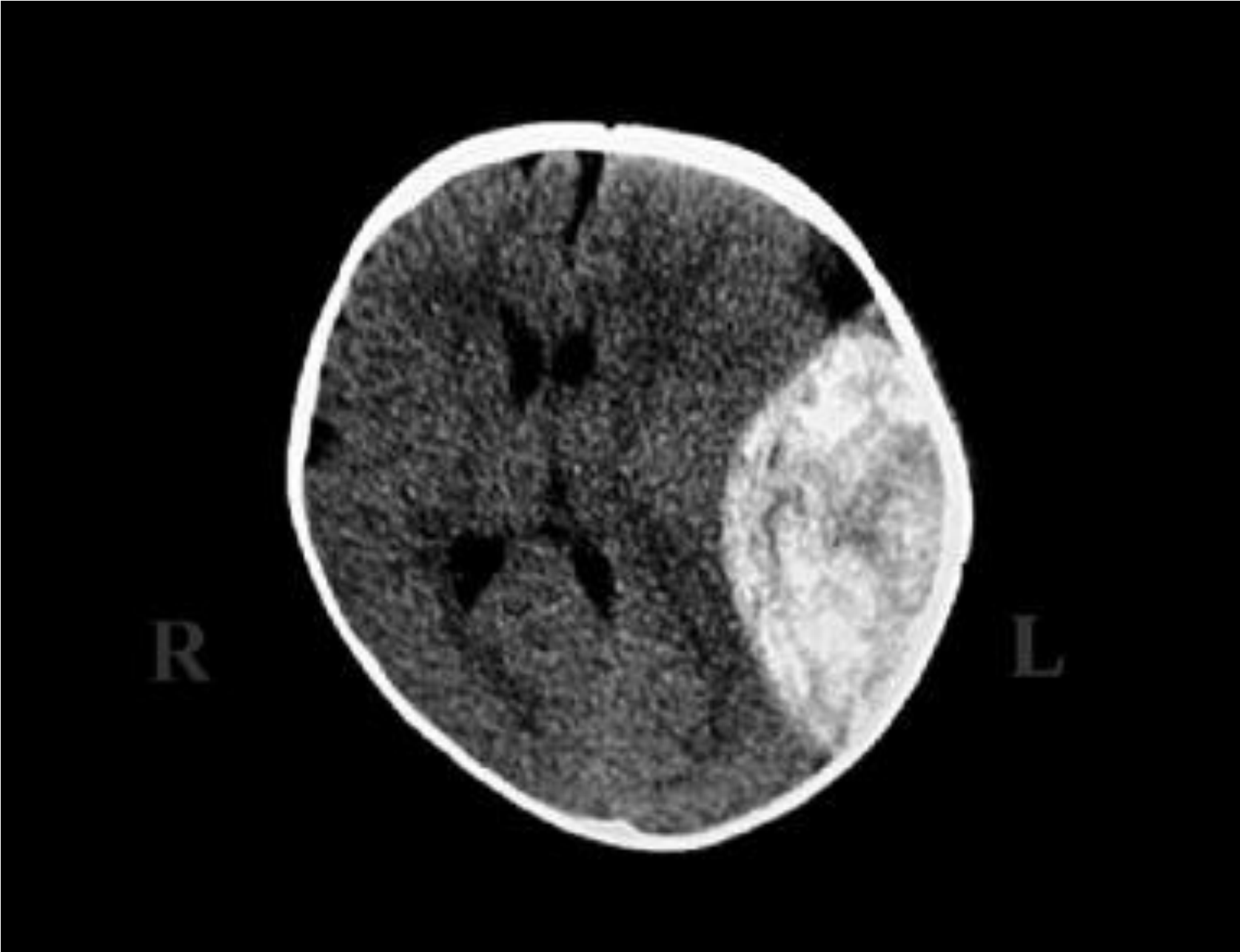
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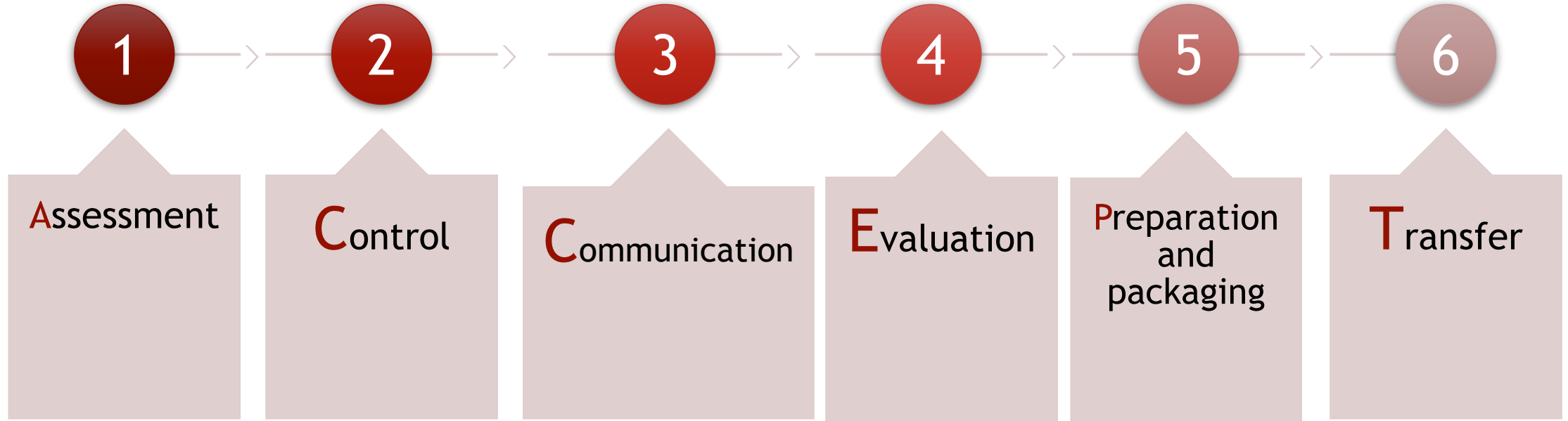


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Extradural Haematoma





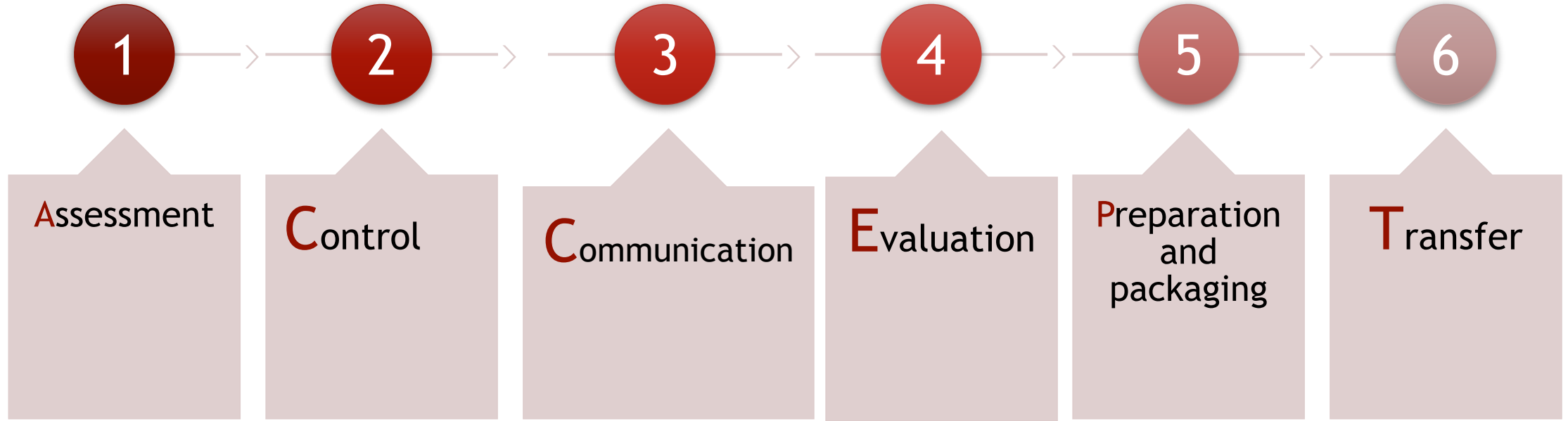
Communication

- Paediatric team involvement
- Early communication with PICU/NISTAR team
- Specialist advice
- Parents
- Transfer team



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PICU Calculator



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PICU Calculator





Summary

- General principals are similar to adults
- Multi-speciality input
- Early referral to tertiary unit
- Know what is normal
- Anticipation and Preparation
- Buy PICU calculator!