"The Importance of an Emergency Response Plan: an NPC perspective".

- *RIO 2016 TEAM PHYSICIAN WORKSHOP*

- *Dr Geoff Thompson, MB BS FACSP,*
  Sport & Exercise Physician

  Australian Paralympic Committee

  Territory SportsMedicine
  Darwin, NT, AUSTRALIA

Thank you

Medical Emergencies in Paralympic Sport

- *Dr Geoff Thompson, MB BS FACSP,*
  Sport & Exercise Physician

- *Thanks and Acknowledgements*

Ms Alison Campbell
Section Manager SSSM

Dr David Hughes, FACSP,
Sport and Exercise Physician
AIS Chief Medical Officer
Canberra, Australia

Dr Corey Cunningham, FACSP
Sport and Exercise Physician
APC Chief Medical Officer 2016
Sydney, Australia

Medical Emergencies in Paralympic Sport

Overview

- **Background**
  - Who the athlete was
  - Any previous medical issues of relevance
- **What Happened**
  - Factual account of events leading up to the death of the athlete, including imaging etc.
- **Role of the Team Physician**
  - What our role was
  - What we see as the role generally of the doctor in this position
- **Key take home lessons**
  - One or two key pieces of advice for us all

Medical Emergencies in Paralympic Sport

What Happened on 13/2/14

- APC head office received a call at 9.30am
- Paralympic Snowboard Cross athlete
- C3 SCI in La Molina, Spain
- Was airlifted to Barcelona, and undergoing surgery
- I was enroute Sochi at the time
- Dr David Hughes immediately available
- On flight to Spain at 5.30PM

Medical Emergencies in Paralympic Sport

What Happened

- The Plan
  - Be on the ground before the family
  - Relieve the staff in Barcelona
  - Provide medical, and additional psychological support
  - Provide accurate medical information to Australia
  - Assist with a management plan, and repatriation

Medical Emergencies in Paralympic Sport

Patient Name _____

Examiner Name _____ Date/Time of Exam _____

ASIA

INTERNATIONAL STANDARDS FOR NEUROLOGICAL CLASSIFICATION OF SPINAL CORD INJURY

ISCOS

MOTOR

KEY MUSCLES (scoring on reverse side)

	R	L	
C5	☐	☐	Elbow flexors
C6	☐	☐	Wrist extensors
C7	☐	☐	Elbow extensors
C8	☐	☐	Finger flexors (distal phalanx of middle finger)
T1	☐	☐	Finger abductors (little finger)

UPPER LIMB TOTAL (MAXIMUM) ☐ + ☐ = ☐ (25) (25) (50)

Comments:

L2	☐	☐	Hip flexors
L3	☐	☐	Knee extensors
L4	☐	☐	Ankle dorsiflexors
L5	☐	☐	Long toe extensors
S1	☐	☐	Ankle plantar flexors

(VAC) Voluntary anal contraction (Yes/No) ☐

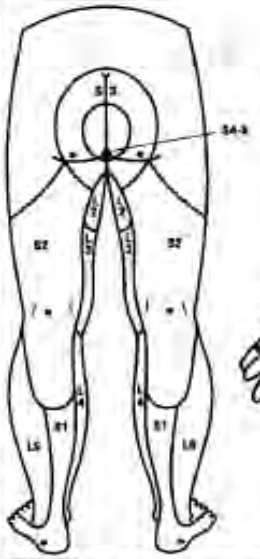
LOWER LIMB TOTAL (MAXIMUM) ☐ + ☐ = ☐ (25) (25) (50)

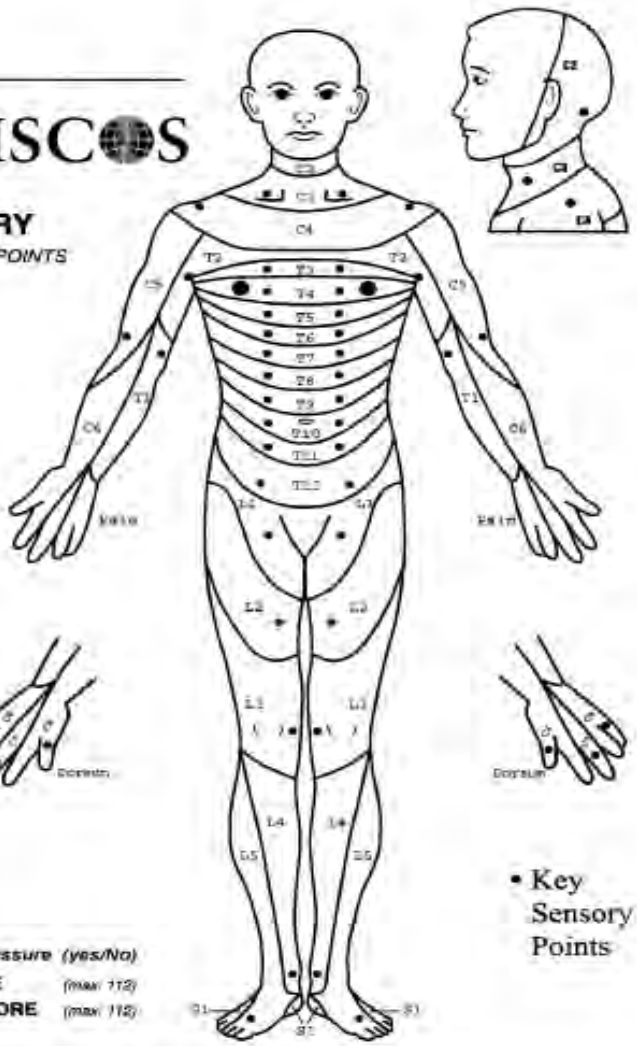
	LIGHT TOUCH		PIN PRICK	
	R	L	R	L
C2				
C3				
C4				
C5				
C6				
C7				
C8				
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				
L1				
L2				
L3				
L4				
L5				
S1				
S2				
S3				
S4-5				
TOTALS (MAXIMUM)	☐ (56)	☐ (56)	☐ + ☐ = (56)	(56)

SENSORY

KEY SENSORY POINTS

0 = absent
1 = altered
2 = normal
NT = not testable





- Key Sensory Points

☐ (DAP) Deep anal pressure (yes/No)

PIN PRICK SCORE (max: 112) ☐

LIGHT TOUCH SCORE (max: 112) ☐

NEUROLOGICAL LEVEL The most caudal segment with normal function — SENSORY R ☐ L ☐ / MOTOR R ☐ L ☐

SINGLE NEUROLOGICAL LEVEL ☐

COMPLETE OR INCOMPLETE? Incomplete = Any sensory or motor function in S4-5 ☐

ASIA IMPAIRMENT SCALE (AIS) ☐

(In complete injuries only) **ZONE OF PARTIAL PRESERVATION** Most caudal level with any innervation — SENSORY R ☐ L ☐ / MOTOR R ☐ L ☐

Medical Emergencies in Paralympic Sport

Spinal Cord Injury

- Destruction from direct trauma
- Compression by bone fragments, hematoma, or disc material
- Ischemia from damage or impingement on the spinal arteries
- Oedema

Medical Emergencies in Paralympic Sport

Neurogenic (spinal) Shock

- Autonomic dysfunction
- Interruption of sympathetic nervous system control
- Occurs with injuries above T6
- Triad: hypotension, bradycardia, peripheral vasodilatation

Medical Emergencies in Paralympic Sport

- C1 – C4 Tetraplegia
- 20% die before reaching hospital
- 3% die shortly after admission
- Of those who survive > 2 years
  - Average life expectancy beyond injury is 15 years
  - Leading cause of death is suicide
- Vital Capacity 20% of normal, cough weak and ineffective
- Ileus, hence NG tube

- Prognosis
- Complete SCI < 5% chance recovery
- Persisting complete paralysis @ 72 hours < 5% chance recovery

Medical Emergencies in Paralympic Sport

- The Role of the Sports Physician
- Initial assessment of athlete, understanding of the gravity of the situation
- Meeting and counselling the family (parents and fiancé)
- Managing family anxiety
- Managing expectations without dashing hope
- Understanding and planning around autonomic instability, risks of infection, pressure sores, DVT
- 'Window of opportunity' for repatriation
- Conduit between family, Spanish experts, Australian experts, repatriation team

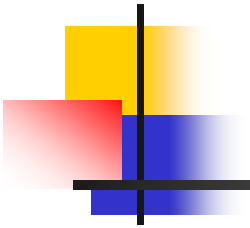
Medical Emergencies in Paralympic Sport

- Issues
- "Unknown" deceased foreign national in Kuwait City'
- Police alarmed
- Fiancé isolated
- Head for Kuwait City
- Meet Australian Embassy Staff, Chief of Police
- Meeting with Chief Pathologist
- Autopsy?
- Phone call with parents
- Meeting with Undertaker
- Dress for Pt
- Formalities (ID, sealing coffin, payment)

Medical Emergencies in Paralympic Sport

Messages

- Medical disasters are not uncommon
- At least three other Australian Sports Physicians have had to deal with death of a young athlete while overseas
- Psychologist will always be needed
- Two is better than one
- Need to be on ground before family if possible
- Need to establish links with home-based experts early
- Always travel home after patient



Every Team

Needs

a

Critical Response Plan

Critical Incident Response Plan

The APC with the assistance of the AFP have developed such a Critical Incident Response Plan

APC, AFP, Australian Consulate have worked towards this plan

Incident ManagementTeam

have established

Incident Response Protocols

Critical Incident Response Plan

Designated person takes charge

The situation is continually assessed

Plan is established, including logistics

Effectiveness of the plan is continuously monitored

Public information : timely, consistent, accurate

Post-incident review

THANKYOU FOR YOUR ATTENTION