

# Dual Diagnosis

## Severe Traumatic Brain Injury and Spinal Cord Injury

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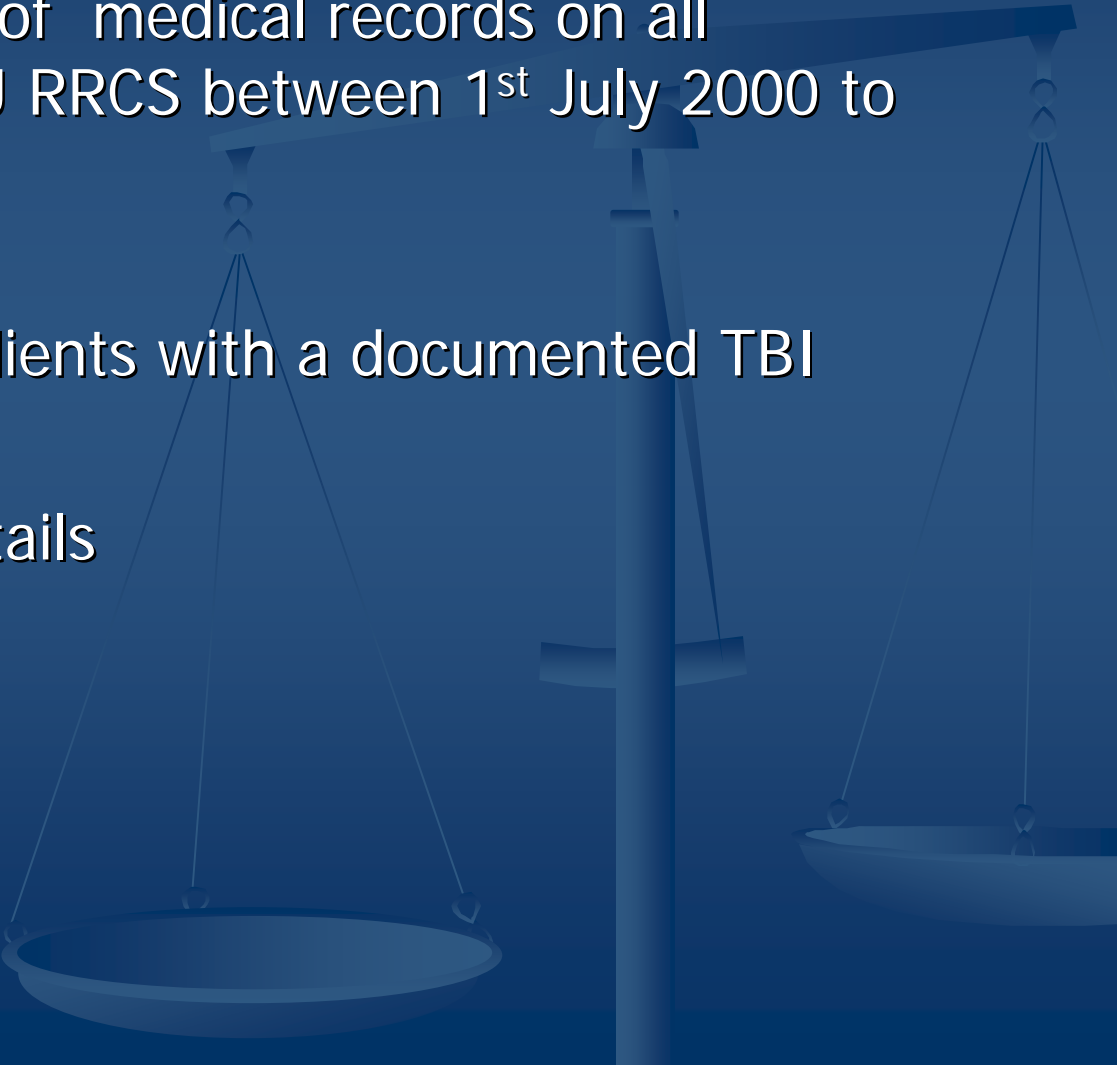
# Background

## Dual Diagnosis

Traumatic Brain Injury (TBI) complicating Spinal Cord Injury (SCI) at Moorong Spinal Unit (SIU), Royal Rehabilitation Centre- Sydney (RRCs), July 2000 to June 2005 (5 years)



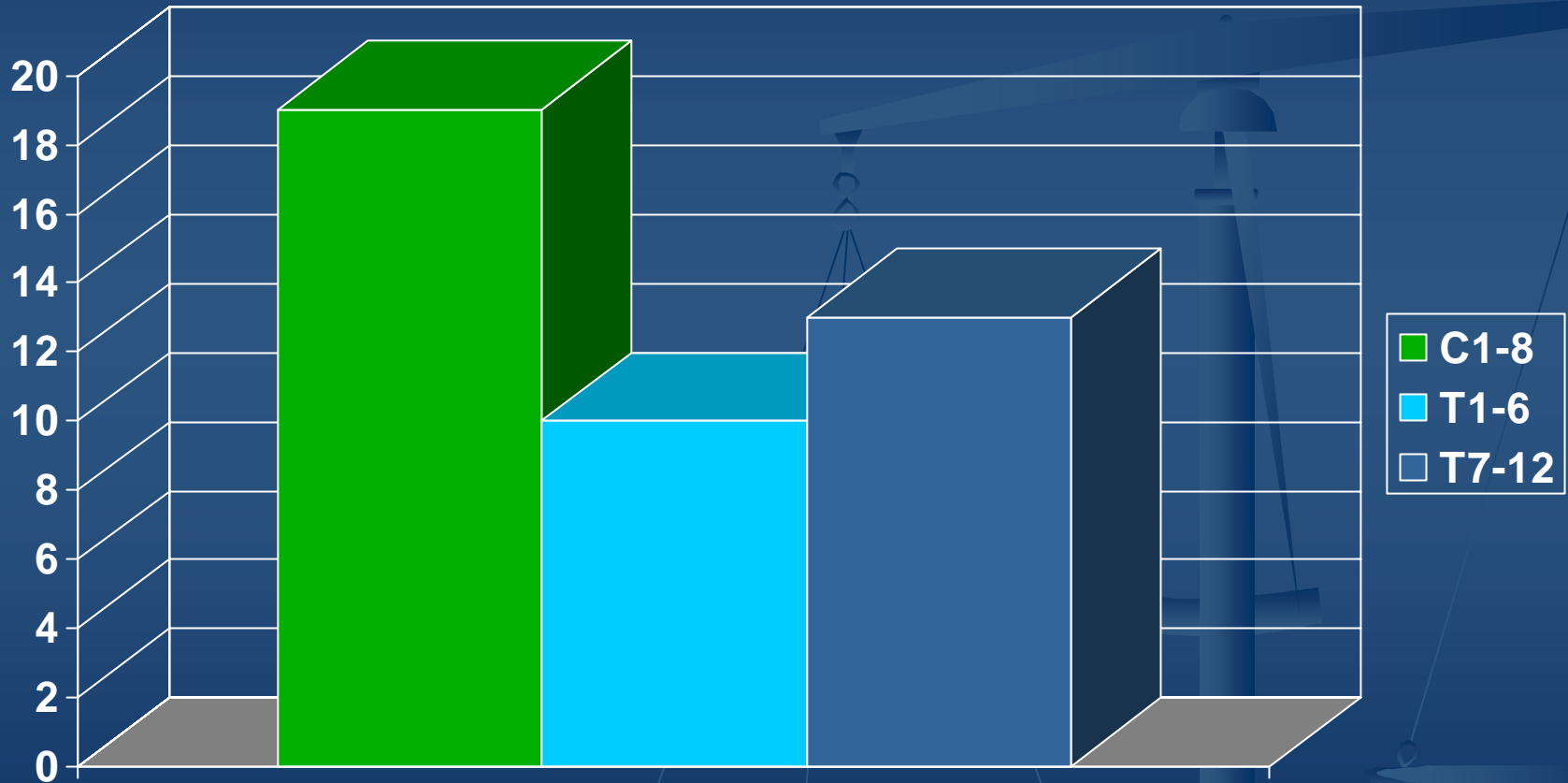
# Dual Diagnosis

- Retrospective review of medical records on all admissions to the SIU RRCS between 1<sup>st</sup> July 2000 to 30<sup>th</sup> June 2005.
  - Data obtained from clients with a documented TBI
    - Demographics
    - Injury related details
    - Severity of TBI
    - Outcomes
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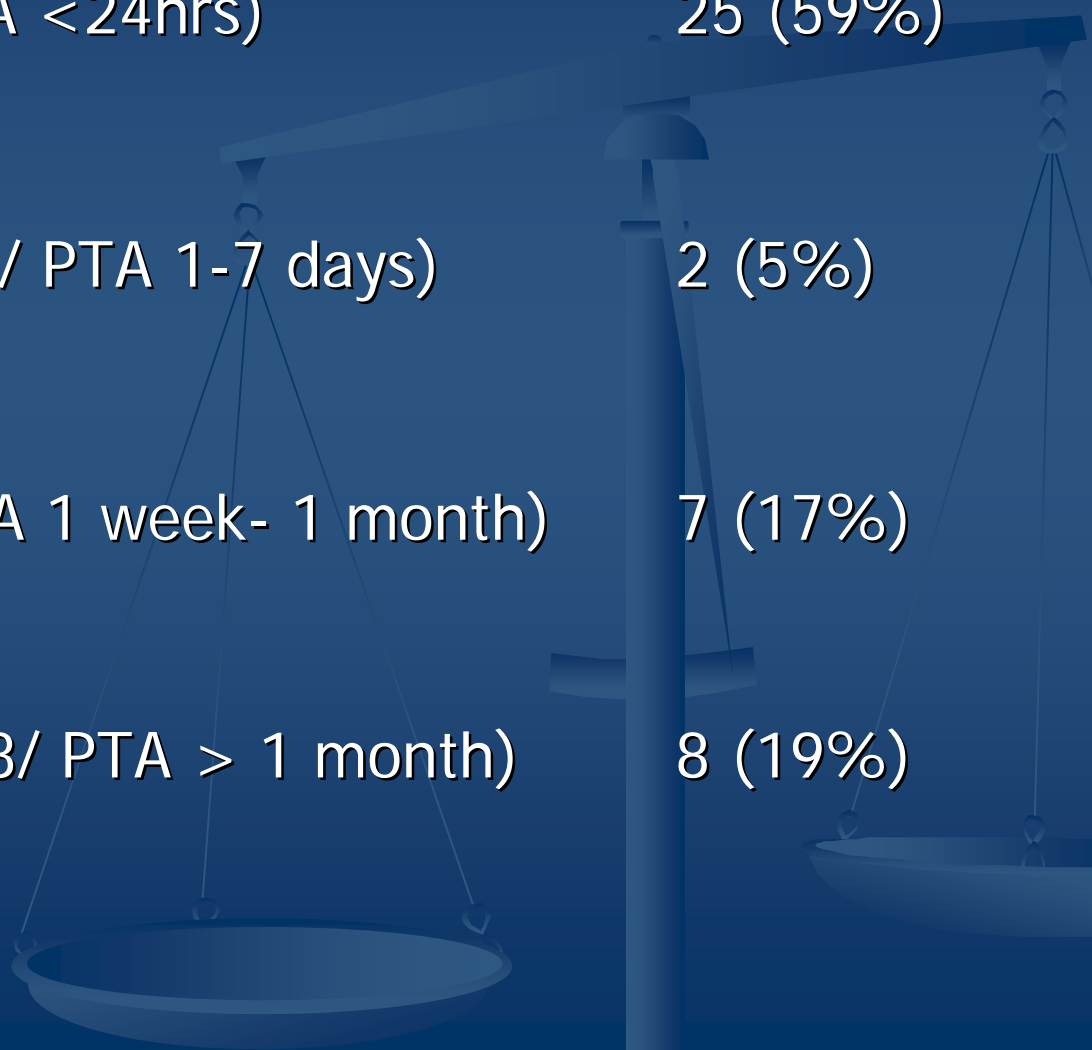
# Results

- 263 admissions over 5 years
- 187 recent SCI
- 42 (22.5%) with Dual Diagnosis
- 15(35.7%) notable changes on Brain imaging
- Main causes of injury
  - MBA 13 (31%)
  - MVA 9 (21%)
  - Falls 9 (21%)

# Spinal Cord Injury Level



# Severity Of TBI

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- Mild (GCS 12-15/ PTA <24hrs) 25 (59%)
  - Moderate ( GCS 9-11/ PTA 1-7 days) 2 (5%)
  - Severe (GCS 3-8/ PTA 1 week- 1 month) 7 (17%)
  - Very Severe (GCS 3-8/ PTA > 1 month) 8 (19%)
- | Severity                              | Count | Percentage |
|---------------------------------------|-------|------------|
| Mild (GCS 12-15/ PTA <24hrs)          | 25    | 59%        |
| Moderate ( GCS 9-11/ PTA 1-7 days)    | 2     | 5%         |
| Severe (GCS 3-8/ PTA 1 week- 1 month) | 7     | 17%        |
| Very Severe (GCS 3-8/ PTA > 1 month)  | 8     | 19%        |

# Severe TBI complicating SCI Post Discharge Questionnaire

- Clients with Severe TBI/SCI admitted to RRCS between July 2000 and June 2005
- At time of survey clients were one and a half to four and a half years post discharge
- 25 questions
- Questions - Discharge destination  
Bladder, Bowel, Skin  
Neuropathic pain, Spasticity  
Re hospitalisation  
Mood, Memory  
Return to work/driving
- Telephone/Outpatient clinic contact and medical records

# Objectives



- To Identify  
mainly health related outcomes
- To improve  
inpatient and outpatient management  
discharge planning  
secondary prevention  
staff and client awareness and education



# Results

- 15 with Severe TBI

- Demographics

12 males

Majority (60%) between 30-49 yrs

Level of injury- Cervical 5 (ASIA D- 4)  
Thoracic 10 (ASIA A- 8)  
4 were ambulant

LOS- >6 months -8, 3-6 months - 3, < 3 months 4

# Results contd.

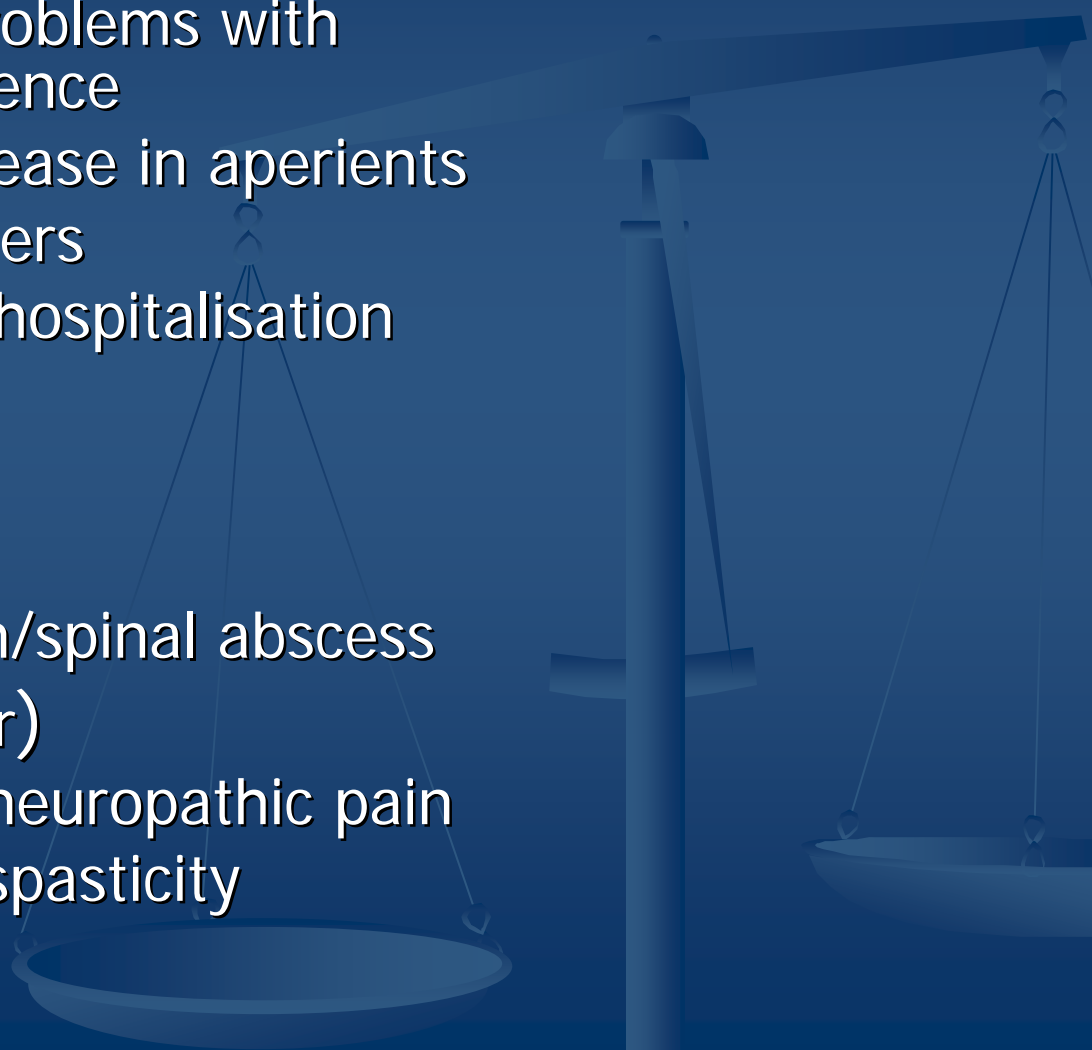
- 11 participants in this survey
  - 2 recently deceased
  - 2 not contactable
- 6 telephone interviews



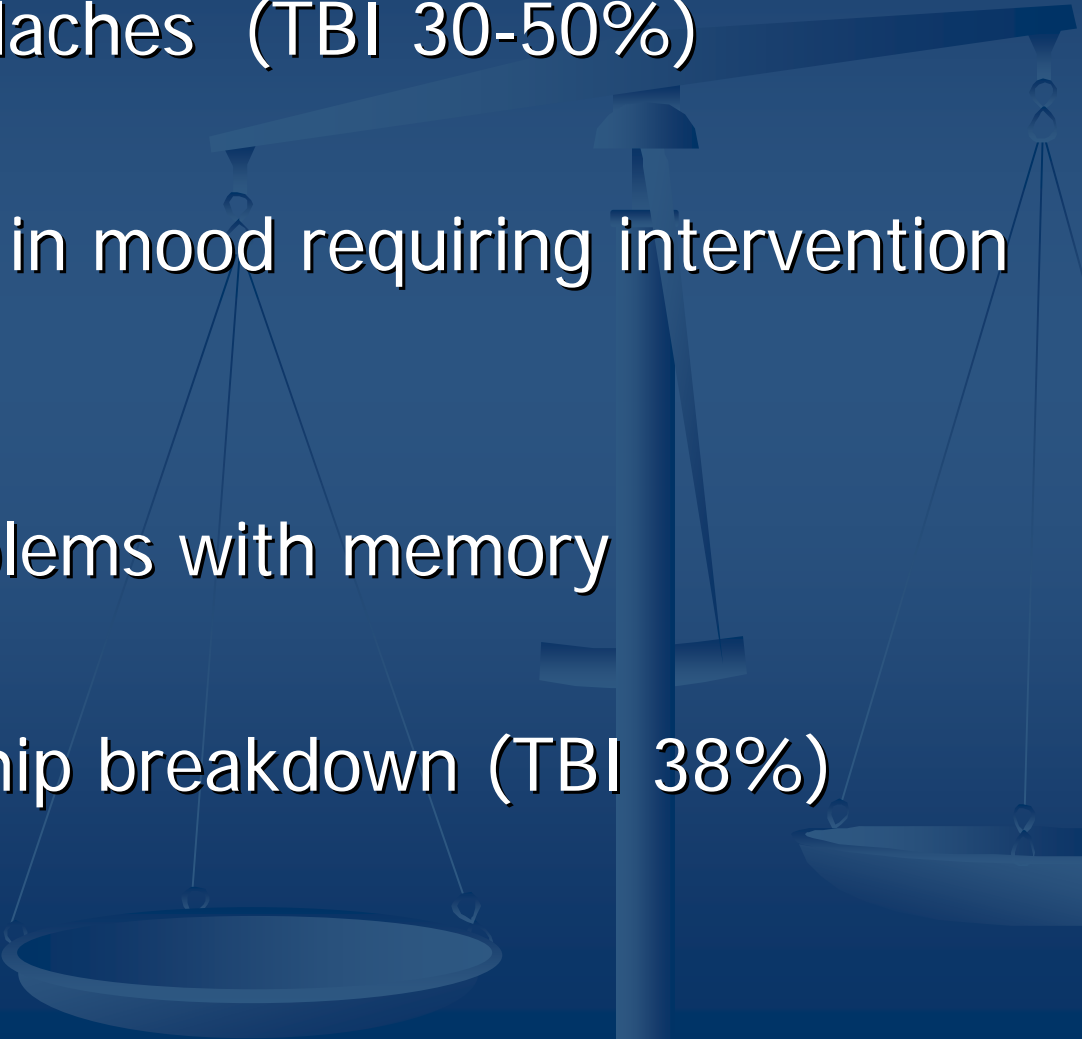
# Results contd.

- 9 (82%) discharged home
- 6 (55%) changed residence since discharge
- 4 (36%) receive >16hrs of care/day
  - 5 received informal support from family
- 3 (27%) needed increase in care since discharge
  
- Current bladder mx- mostly unchanged
- 4 (36%) Hx of recurrent UTIs ( Average 2.5 per year)
- Non with h/o renal calculi
- 9 (82%) appropriate renal imaging

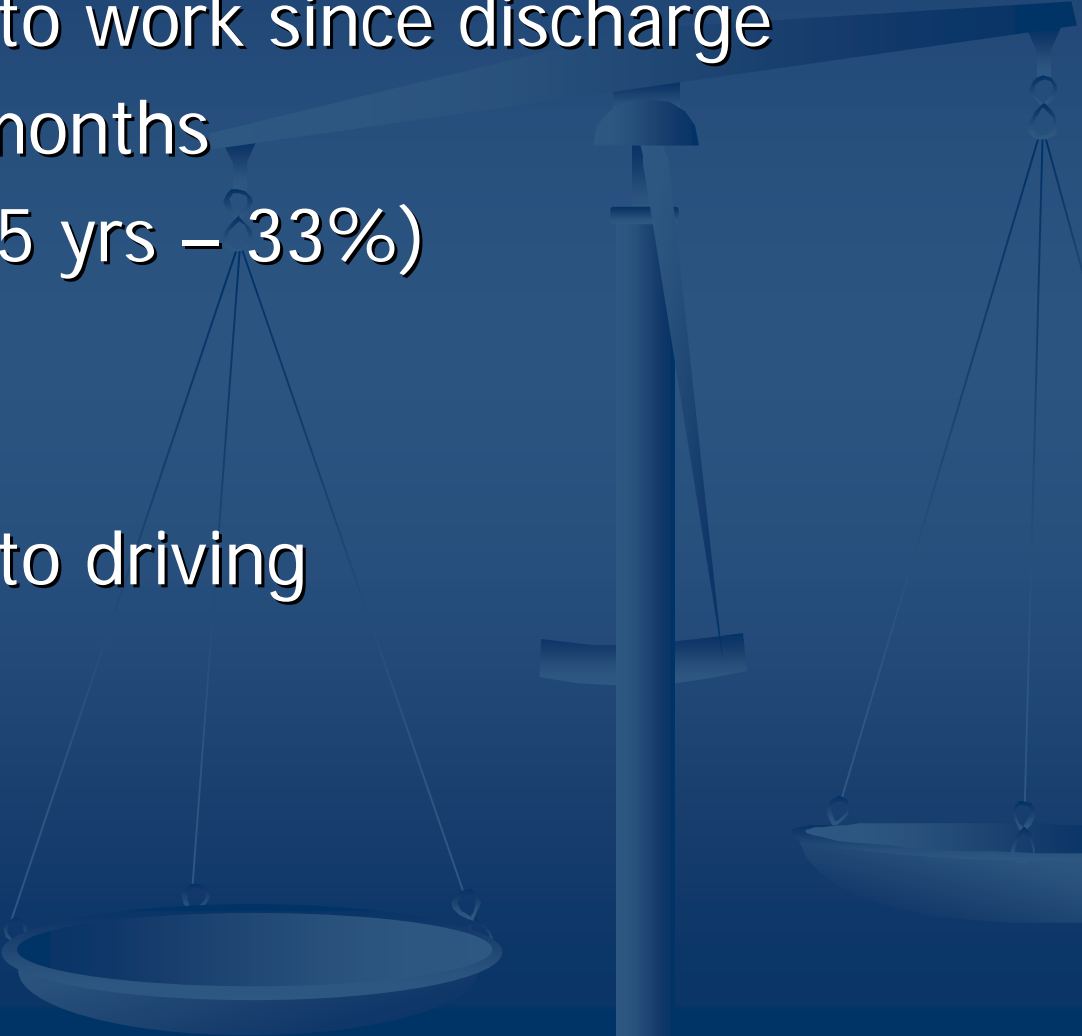
# Results contd.

- 5 (45%) reported problems with constipation/incontinence
  - 2 (18%) needed increase in aperients
  - 2 (18%) pressure ulcers
  - 7 (67%) required re-hospitalisation
    - 1 bladder
    - 1 bowel
    - 2 skin
    - 3 other- ITB/Pain/spinal abscess  
(5 within first year)
  - 4 (36%) increase in neuropathic pain
  - 4 (36%) increase in spasticity
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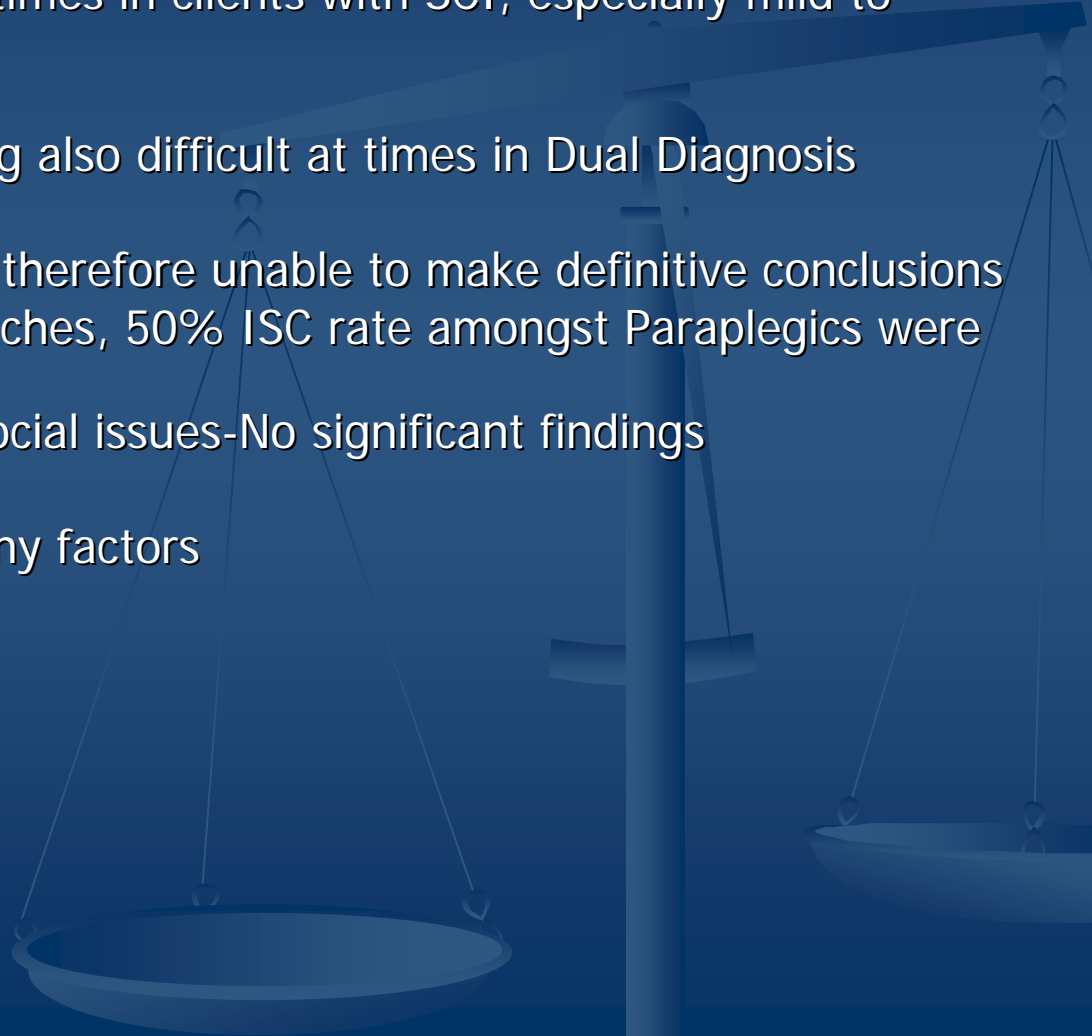
# Results contd.

- Non with h/o headaches (TBI 30-50%)
  - 4 (36%) decrease in mood requiring intervention (TBI 15-24%)
  - 4 (36%) new problems with memory
  - 3 (27%) relationship breakdown (TBI 38%)
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# Results contd.

- 6 (54%) returned to work since discharge
    - 2 left after a few months  
(TBI dropout at 5 yrs – 33%)
    - 1 retired
  - 5 (45%) returned to driving
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# Discussion

- Diagnosis of TBI difficult at times in clients with SCI, especially mild to moderate TBI.
  - PTA/Neuropsychology testing also difficult at times in Dual Diagnosis
  - Small numbers in this study therefore unable to make definitive conclusions
    - Recurrent UTIs, headaches, 50% ISC rate amongst Paraplegics were notable findings
    - Bowels, Skin, Psychosocial issues-No significant findings
  - Outcomes influenced by many factors
    - Level of injury
    - Extent of TBI
    - Social issues
    - Drug and Alcohol
    - Pre-injury status
- 

# Case Discussion

## Mr A

- 29yrs
- GCS 3/15
- PTA 3 months
- T5 ASIA A
- De facto partner
- 3 children
- concreter

## Mr B

- 20yrs
- GCS 3/15
- PTA 2 months
- T4 ASIA A
- Single
- Living with parents
- Part time sales



# Case Discussion

## Neuropsychology testing

### Mr A

### Mr B

1. Low average Intellectual function
2. Reduced learning capacity
3. Variable performance with Executive functioning
4. Reduced mental flexibility
5. Intact attention, but easily distractable
6. Anxiety and reduced mood

1. low average to average
2. Reduced
3. Significant problems
4. Reduced
5. Reduced
6. Nil problems

# Case Discussion - Outcomes

## Mr A

- Separated
- Rental accommodation
- Unemployed
- 2 hospital admissions
- Pressure ulcers
- SPC/failed ISC
- No Neuropathic pain
- Alcohol

*Ongoing significant issues*

## Mr B

- Single
- Living with family
- Employed
- No admissions
- Nil
- ISC/problems
- Neuropathic pain
- Alcohol

*Managing well in community*

# Conclusion

- Care of a person with a Dual Diagnosis is complex requiring knowledge of two major disabilities.
  - Due to small numbers further research is necessary across units to understand specific issues in this group and thereby improve management.
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