

WELCOME



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RIDING THE WAVES OF  
**Excellence**  
**in SCI Care**



# ASCIP sci

Board Review Course

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**Baylor Scott & White**  
INSTITUTE FOR REHABILITATION



Academy of  
Spinal Cord Injury  
Professionals, Inc.™

Many Minds. One Vision.

# DISCLOSURE

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ASIA Board of Governors

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How did we get here ?

# Incidence

- In the US estimated to be **54 cases per million**
- Approximately **17,810 new SCI cases per year**
  - Annual with those **0-19 yoa** is **10-25 new cases per million**
  - \*
- **Prevalence**
  - **Approximately 288,000 cases**

# Looking at Risk factors

- Age
- Gender
- Race/Ethnicity
- Other

# Age

- Average age increased from 29 yoa during the 70's to **43** in 2015
- Varies by age group
  - Lowest for peds ( younger than 16 yoa) → 4.5 % ( 3-5%)
  - Highest for late teens and 20's
  - Increases for those older than 65 yoa → >11% of SCI cases
  - Occurs most frequently in 16-30 yoa group
- Etiology by age
  - Violent acts decrease as you age
  - Falls and medical/ surgical complications increase as you age
  - Sports are more common in younger than 15 yoa
  - MC sport injury is diving

# Gender:

- +/- 78% are male
- % of female has increased from 18.2% in 1970s to 22% 2015-17
- Approximately **4:1** male to female



# Race/Ethnicity

- Non-Hispanic Whites have the highest incidence of SCI
  - Followed by non-Hispanic Blacks and Hispanics
- 24% of injuries occur in non-Hispanic blacks
- Increase incidence of SCI within Hispanic population going from 6% to 12.8%

# Other factors:

- **Alcohol:** 22% and 50% had a + blood alcohol
- **Time of week :** weekends (Saturday>Sunday)except for medical/surgical ( Monday/Tuesday)
- **Time of year:** warm-weather months : July( 10.9%) and less in February (6.3%)

# Prevalence and Demographics

- About **240,000** persons range (250,000 to 368,000)
  - **Age**
    - 45 yoa
  - **Gender**
    - Male to female prevalence is lower than incidence :
    - 2.6 vs.4.0 as women live longer
  - **Race**
    - White to nonwhite prevalence is 1.5 -similar to incidence

# Education

- % of those with college or higher degree has increased from 7.0% to 24.0% over last 50 years
- From 2015 approx. 24% of individuals with SCI have college degrees at time of injury compare this with **45%** who have that survive **40** years post injury



# Occupational status

- Increase in working responders post injury (2015)
  - 12-18% are employed at year 1
  - 25.8% at 5 years
  - 35% at 10 years
  - 32 +% are employed at year 40
- Slight increase with paraplegia over tetraplegia

# Marital Status

- This is relative consistent
  - Single never married decreasing
  - Divorced increasing
  - Marriage rate is lower in the SCI population
  - **Post**injury marriages survive better than **pre**injury marriages
  - Better psychosocial outcomes with marriage in the SCI population

# Injury Characteristics and Trends

- **MVC** has decreased but still the leading cause
- **Falls** has increased noted in those 45 yoa and older
- **Violence** peaked in the 90s has since decreased
- **Sports** injuries have declined since the 70s
  - Diving, football and trampoline has declined
  - Skiing , winter sports and surfing have increased

# Levels of injury

- Incomplete tetraplegia 47.2 %
- Incomplete paraplegia 20.4%
- Complete paraplegia 20.2%
- Complete tetraplegia 11.5%
- Level of injury varies by COI:
  - **Firearms** = complete paraplegia
  - **Diving** = complete tetraplegia
  - **Falls ( from high surface )** = complete paraplegia
  - **Falls GLF / steps** = incomplete tetraplegia



# Levels of Injury

- High cervical injuries have **increased**
- Low cervical have **decreased**
- Thoracic, lumbar and sacral have stayed the same
  
- Incomplete injuries have increased
- Decreased in complete
- 1% of less have complete recovery by DC

# Associate Injuries

- About 36% have something else going on with SCI injury
- TBI
- Vertebral injury

# Length of Stay

- LOS in acute care has gone from 24 days (1970s) to 11 days (2015)
- IPR declined form 98 days to 31 days

# Outcomes

- 90% DC back to community
- With decreased LOS more are NOT going home



# Rehospitalization

- 30% at least 1 time
- LOS about 18 days for those readmitted
- Cause
  - GU issues
  - Skin
  - Respiratory
  - Digestive
  - Circulation
  - MSK

# Mortality

- 5.7% to 8.0 % die Prior to acute hospital
- Risk
  - Age >65
  - MVC
  - High cervical level
  - Polytrauma
  - Multiple comorbidities
  - Complications ( DVT and TBI)

# Mortality

- Life expectancy
  - Remains below those without SCI still
  - Mortality rates greater in the first year
  - Life expectancy decreases with age, LOI completeness, and ventilator use

# Cause of Death

- **Respiratory** → PNA
- Infectious Disease and parasitic  
usually cases of Septicemia
- Cancer
- Heart disease

Suicide has decreased form the 70s but still 3X as high as those with out SCI ( highest in the first 6 years)

Last 45 years

declining in cancer, heart disease, stroke, arterial disease, PE, urinary disease, digestive issues and suicide

increasing for metabolic and nutritional diseases, accidents, nervous system disease, MSK d/o, and mental disorders

No real change in septicemia only slight decrease in respiratory

# Cost

- Average yearly expenses ( including health care and living expenses )
- This will vary based on LOI
  - **\$1,149,629- 375,196** for the first year and **\$199,637-45,572** subsequent years
- Indirect cost ( lost wages, benefits, and productivity )

# Thank you

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