
Concussion Awareness

LB 260

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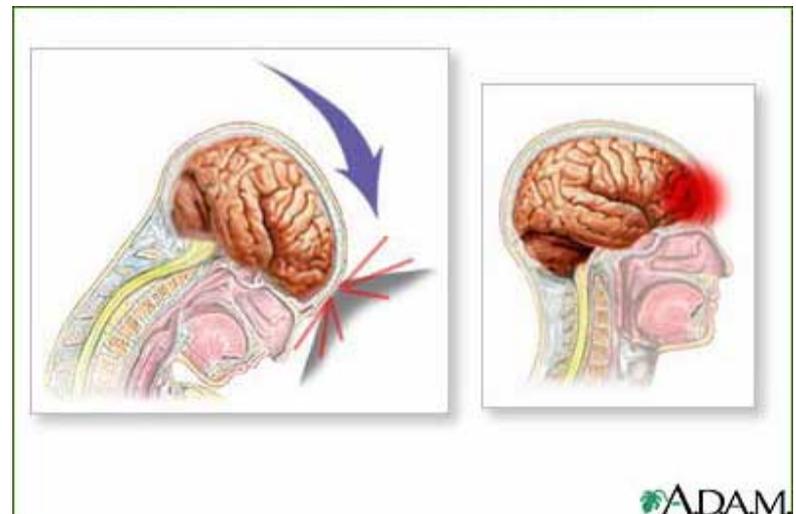
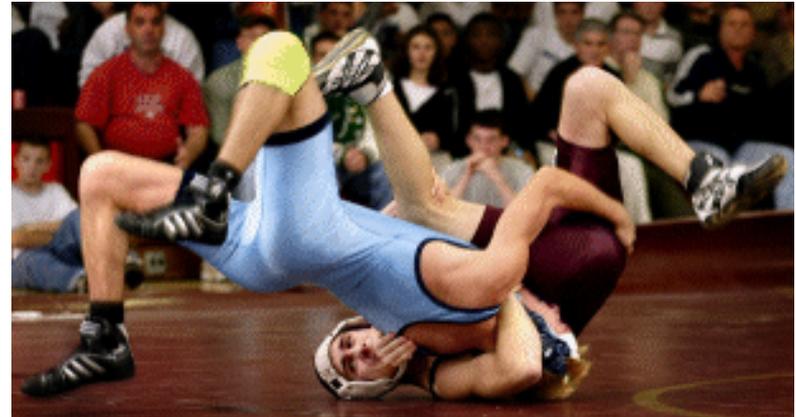
Nebraska Dept. of Health & Human Services

Objectives

- Explain the seriousness of concussions
 - Explain signs and symptoms of concussions and the basics of concussion management
 - Describe the incidence of sports-related concussions in Nebraska
 - Summarize the capacity of Nebraska schools to prevent, recognize and respond to concussions and return to play
 - Explain the provisions of LB 260
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What is a Concussion?

- A concussion is a **mild traumatic brain injury** that interferes with normal function of the brain
- Evolving knowledge
 - “dings” and “bell ringers” are serious brain injuries
 - Do not have to have loss of consciousness
- Young athletes are at increased risk for serious problems



Concussion/ mTBI Definition

- Concussion results in a constellation of symptoms:
 - physical, cognitive, emotional and sleep-related
 - Duration of symptoms is variable; may last only several minutes or last as long as several days, weeks, months or even longer in some cases.
 - Because of this, grading systems for return to play are no longer considered appropriate or applicable
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4 Symptom Categories

Physical

- Headache
- Fatigue
- Dizziness
- Sensitivity to light and/or noise
- Nausea
- Balance problems

Cognitive

- Difficulty remembering
- Difficulty concentrating
- Feeling slowed down
- Feeling mentally foggy

Emotional

- Irritability
- Sadness
- Feeling more emotional
- Nervousness

Sleep

- Drowsiness
 - Sleeping less than usual
 - Sleeping more than usual
 - Trouble falling asleep
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Everyday Functional Effects

■ Home

- ❑ Difficulty completing tasks at home
- ❑ Reduced play/ activity
- ❑ Irritability with challenges

■ School

- ❑ Concentration
 - ❑ Remembering directions
 - ❑ Disorganized
 - ❑ Difficulty with completing assignments
 - ❑ Fatigue
 - ❑ Fall behind, fail tests, reduced grades
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Management

Rest, Rest, Rest for the short term

- Essential for brain's recovery
 - ▶ Sleep
 - ▶ Low activity, not increasing heart rate significantly
 - ▶ Appears to decrease recovery time
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Managing Exertion

- Managing cognitive and physical activity
 - school demands and physical activities
 - Risk for increase or re-emergence of post-concussion symptoms following significant exertional activity
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Physical Rest?

- No sports
- No exercise
- No weightlifting
- Exertion with Activities of Daily Living?

REST = ABSOLUTE REST!

Mental/ Cognitive Rest?

- No prolonged concentration
- No prolonged homework
- No prolonged classes (block scheduling)
- No prolonged days

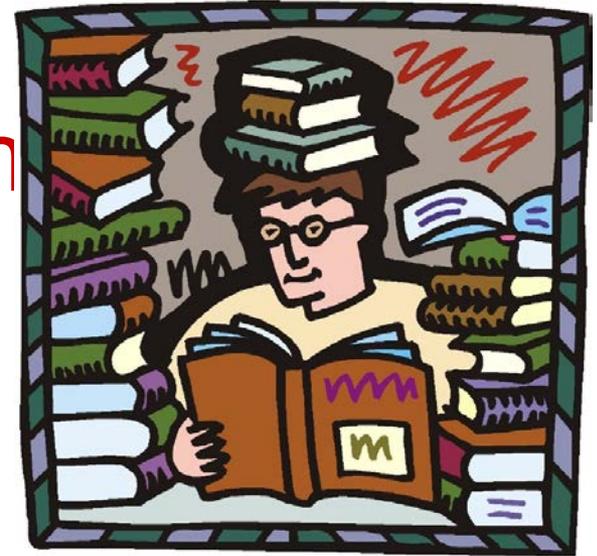
REST = ABSOLUTE REST!

Gradual Return to Play

- ❖ **Rest until symptom free**
 - ❖ **May be appropriate to stay home from school for a few days and limit assignments**
 - ❖ **Return to School**
 - ❖ **Light exercise**
 - ❖ **Running**
 - ❖ **Non-contact drills**
 - ❖ **Full contact practice or training**
 - ❖ **Play in Game**
 - ❖ **If post-concussion symptoms occur at any step, activity must stop**
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Problems for Athletes- Post-Concussion Syndrome

- 85-90% of concussed young athletes will recover within 1 to 2 weeks
- The remainder may have symptoms lasting from weeks to months interfering with school and daily life
- Subtle deficits may persist a lifetime



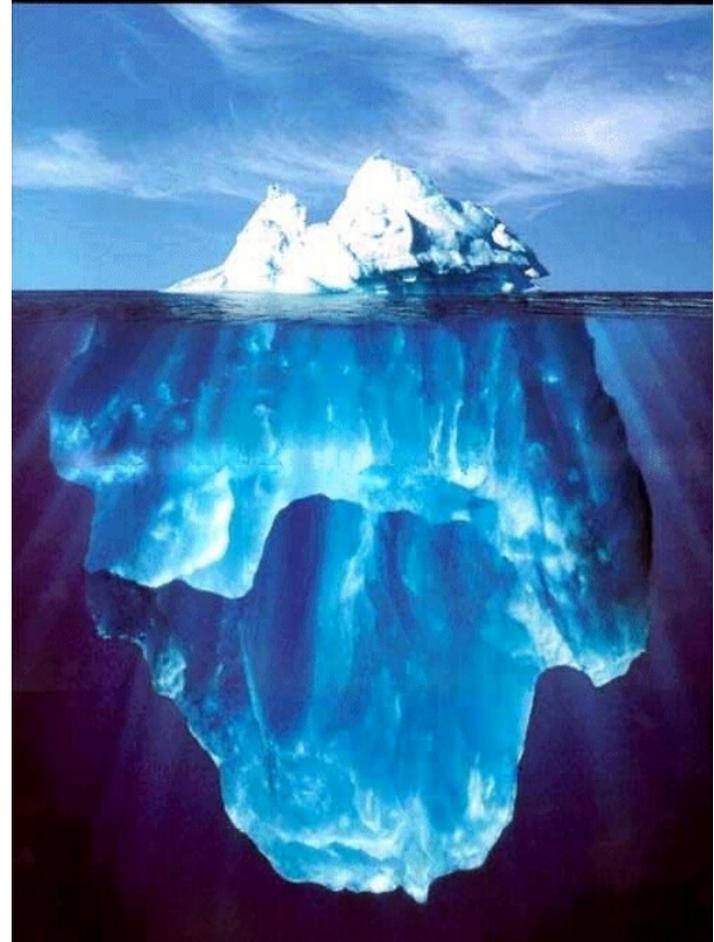
In the Medical Field

- There is much variation in the knowledge of health care providers managing concussed athletes
- New and emerging research and technologies will lead to a continuing evolution of care



Extent of the Problem

- Professional athletes get a great deal of attention
- Much more common in high school than any other level- due to large number of participants



Not Just a Football Problem

Injury rate per 100,000
player games in high
school athletes

- Football 47
 - **Girls soccer 36**
 - Boys soccer 22
 - **Girls basketball 21**
 - Wrestling 18
 - Boys basketball 7
 - Softball 7
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- Data from HS RIO
 - JAT, 2007

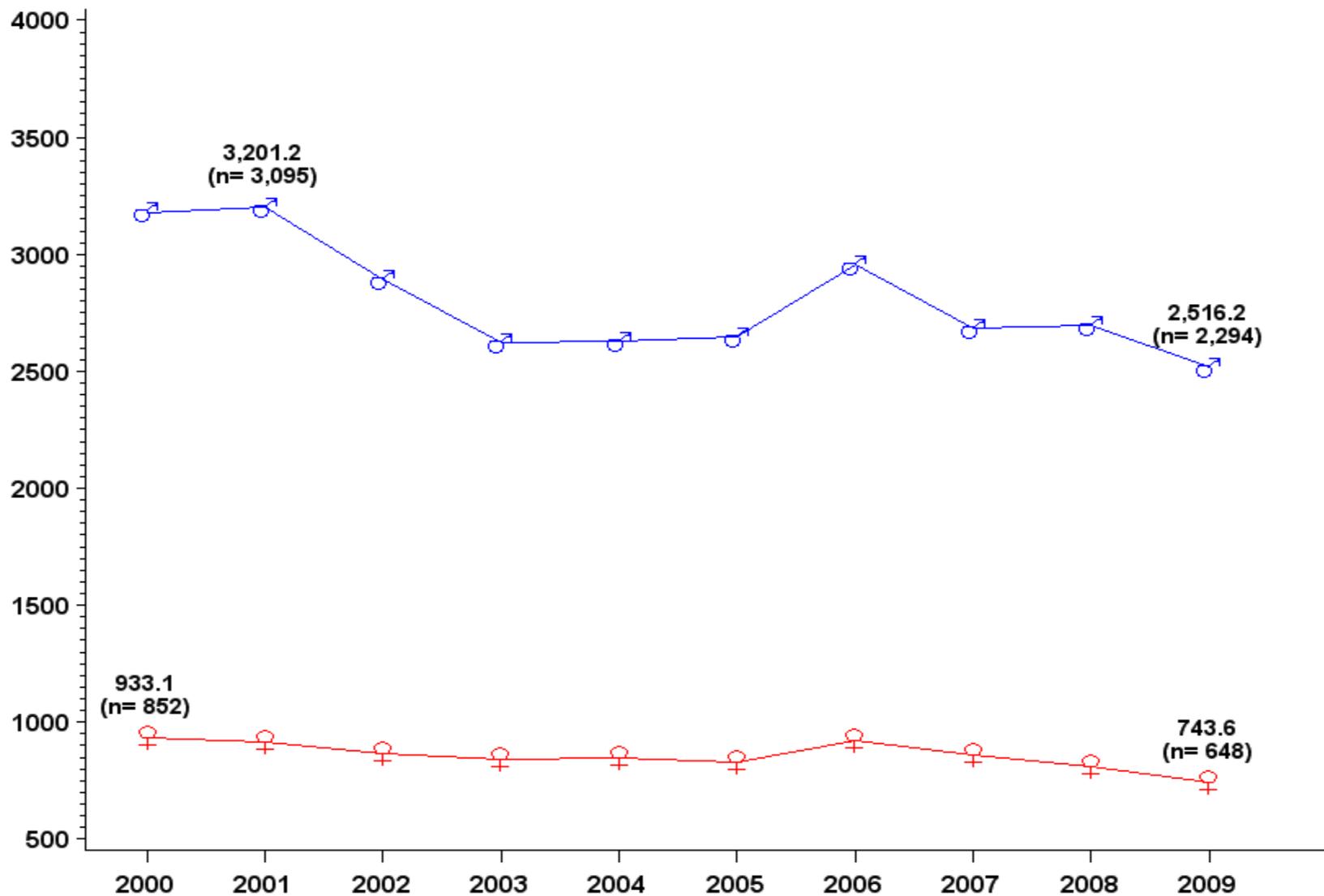


Nebraska sports-related injury trends

Prepared by Jennifer Marcum, DrPH, Injury Prevention
Fellow, Nebraska DHHS

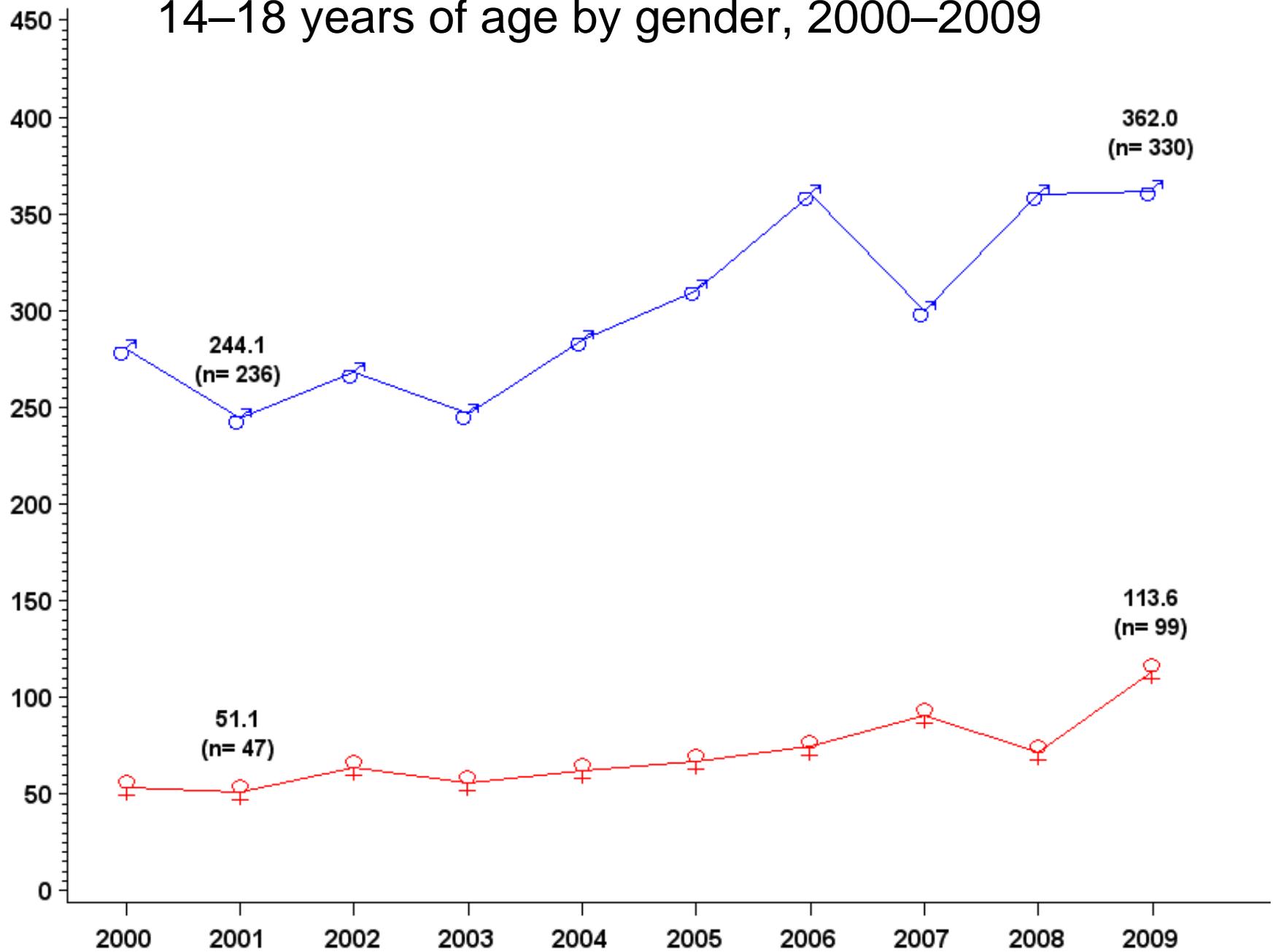
- **In 2010 in Nebraska, approximately 5 children/youth per week age 19 and under sought treatment at a hospital because of a sports-related concussion**
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Rate of sports-related injuries among those 14–18 years of age by gender, 2000–2009

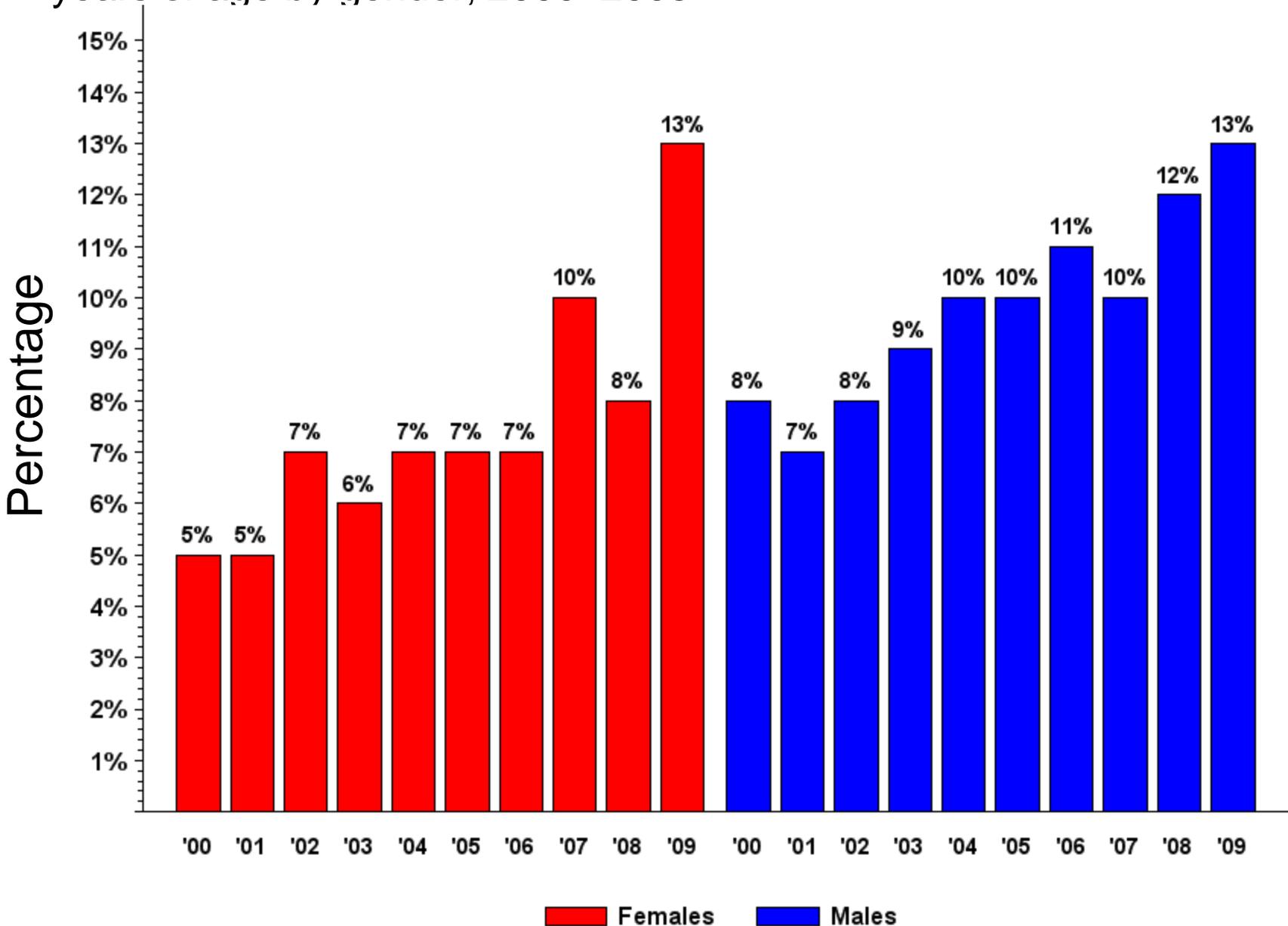


Rate of sports-related TBIs among those 14–18 years of age by gender, 2000–2009

Rate per 100,000 population



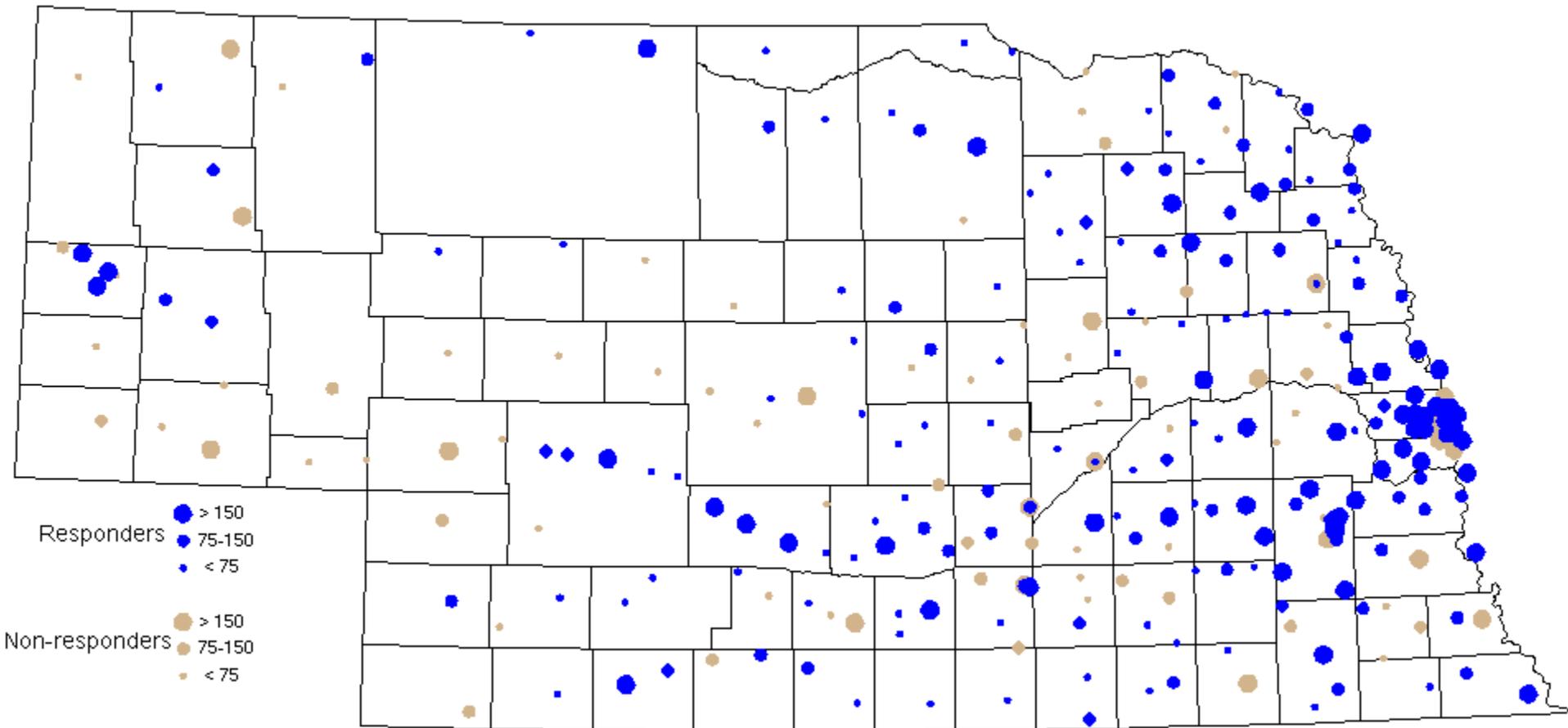
Proportion of all sports-related injuries due to TBI among those 14–18 years of age by gender, 2000–2009



NEBRASKA HIGH SCHOOL CONCUSSIONS NEEDS ASSESSMENT SURVEY

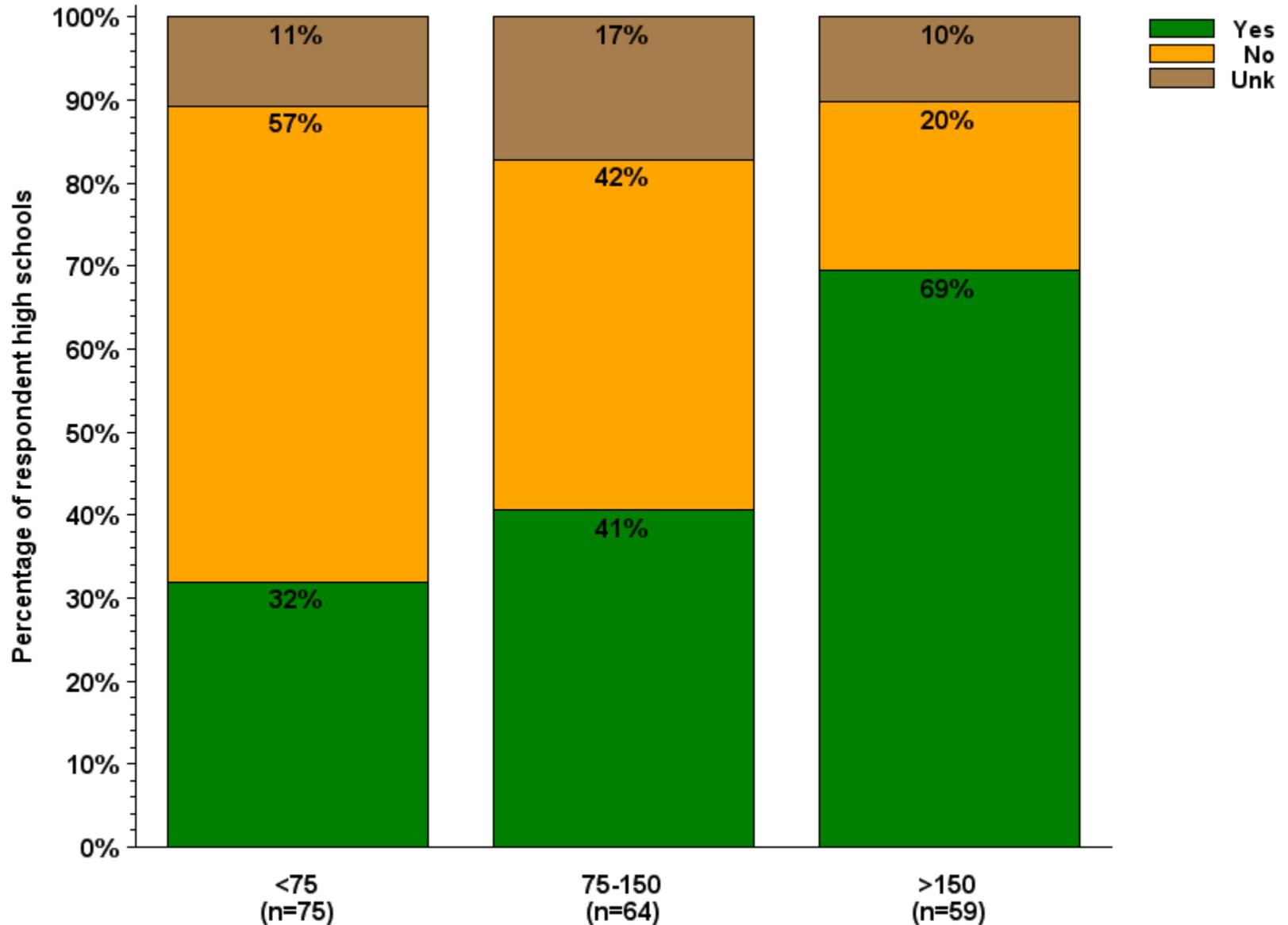
Methods: Concussions survey

- An internet-based survey was created to measure capacity to **prevent**, **recognize**, and **respond** to concussions
- Surveys distributed online to all Nebraska high schools (n=313) and collected in December, 2010
 - Athletic director (60%)
 - Athletic trainer (11%)
 - Principal (10%)
 - School nurse (8%)
 - Other (11%)
- Results described here pertain to **football** only

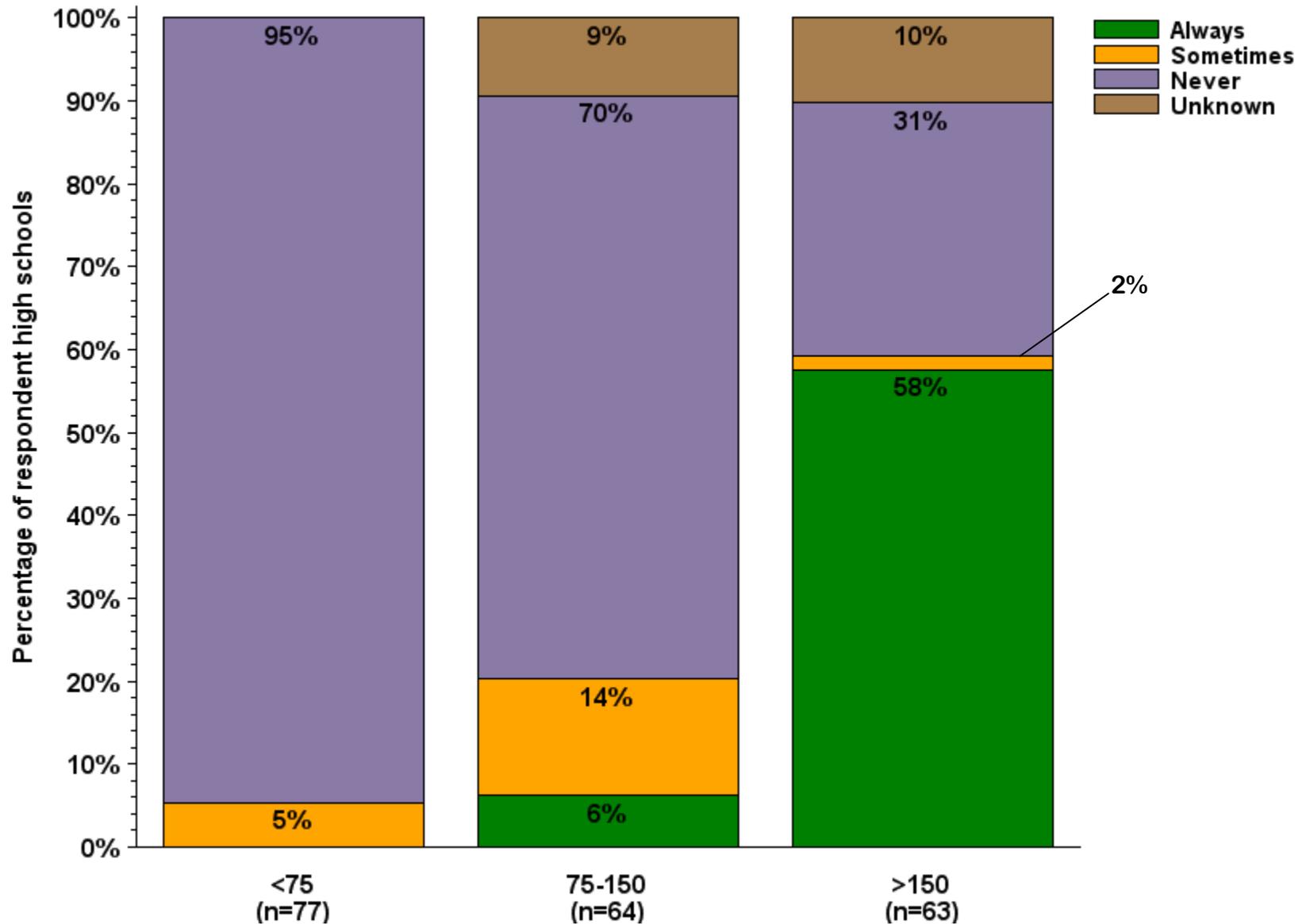


School size (No. enrolled, M)	Responders (No.)	Response Rate (%)
<75, 52	77	59%
75-150, 105	64	74%
>150, 475	63	66%
TOTAL	204	65%

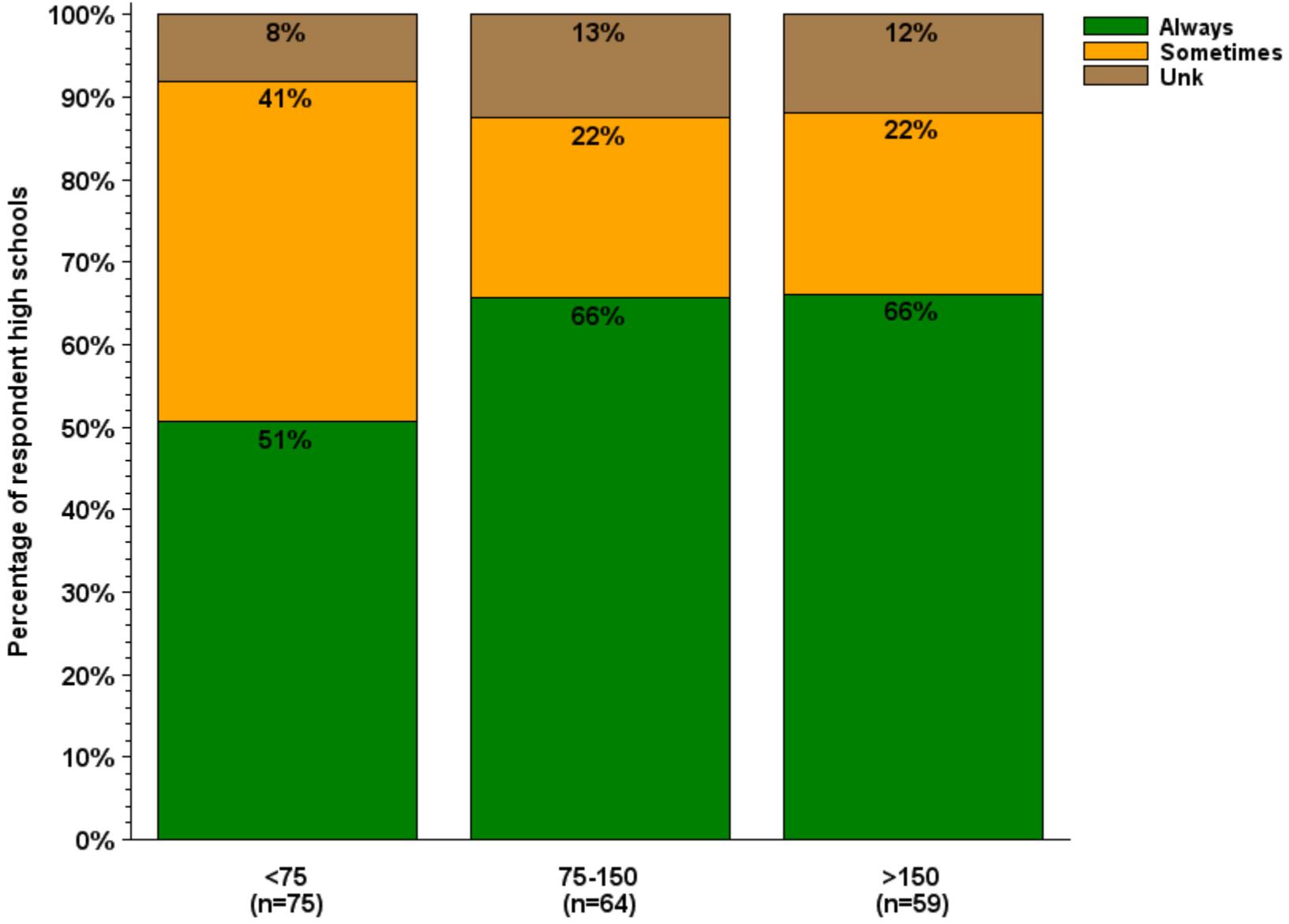
“Are athletes required to undergo a baseline neurocognitive screening to participate on the team?”



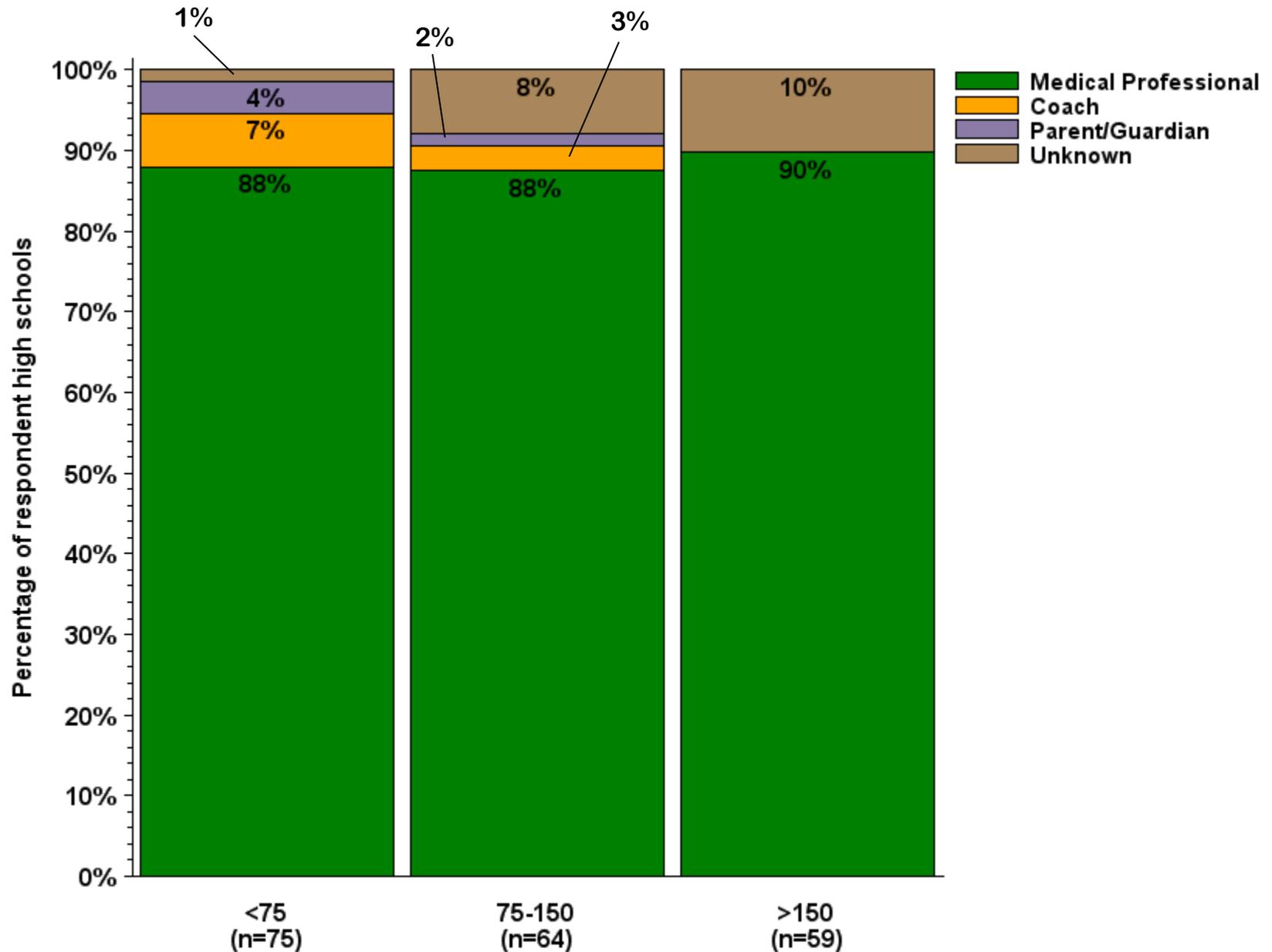
“How often is a Certified Athletic Trainer (ATC) available for team practices and competitions?”



“After a suspected concussion, how frequently is the athlete evaluated by an appropriate medical professional?”



“Who **most commonly** makes the return to play decision after a suspected concussion?”



Conclusions

- Increasing trend of sports-related TBI ED/hospital discharges among 14–18 year olds in Nebraska hospitals
- Smaller schools had fewer sports-injury resources
 - ATCs
 - Baseline neurocognitive testing

What has happened to make this such a big deal?

- Increasing awareness and incidence
 - Number of high profile athletes over the past 20 years
 - Bigger and faster kids, increased opportunities
 - High profile cases
 - Second Impact Syndrome—can result in death or devastating brain damage
 - At least 9 probable cases in Nebraska in the last 12 years



International Conference on Concussion In Sports Consensus Statement (2008)

- Every individual injury is different
- Many will recover within 1-2 weeks but research strongly supports the view that there is greater risk for reinjury during that recovery window
- Some take longer to recover, some shorter
- We **MUST** evaluate **EVERY** concussion individually; grading systems are inappropriate when applied to return to play decisions

Just like every other injury –

- If not recognized and managed early, much greater chance of more severe injury and longer recovery

International Consensus Statement

- Child and adolescent student-athlete
 - Strongly endorsed view no return to practice or play until clinically completely symptom free and **no return same day** even if symptom free
 - More conservative return to play approach; appropriate to extend the amount of time of asymptomatic rest and/or the length of the graded exertion in children and adolescents.
 - Clinical evaluation include patient and parent, and school when appropriate
 - Age-appropriate baseline necessary
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International Consensus Statement

■ Concussion Management

- Physical AND Cognitive Rest
 - Graduated RTP: when asymptomatic at rest
 - stepwise progression, proceed to next level if asymptomatic at current.
 - Each step take 24 hours; would take approximately one week to proceed through the full rehabilitation protocol
 - Same Day RTP: not appropriate in child or adolescent student-athlete (possible in adult ONLY if within well established system)
 - Recognized delayed onset of symptoms
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Seeing A Change?

- November 2009
 - 2 Super Bowl QBs report that they cannot play in upcoming games due to persistent headaches and/or not feeling that they had recovered from most recent concussion.
 - How important is that upcoming HS/MS game this week??



Concussion Management- The Basics

- Coach Education
 - Awareness and Recognition
 - **When in doubt, sit 'em out!!**
- Policies
 - No return to activity on the same day of a concussion
 - **No return to activity if having symptoms of a concussion**



Staying Ahead of the Issue

- Need to take initiative—have concussion management policies in place
 - Communicate with players, parents and staff about the signs and symptoms and dangers of concussion
 - Make sure equipment is fitted and maintained properly—weekly helmet checks
 - Carry the clipboard sheet with you at all games and practices
 - Be strict about enforcing the rules, in the game and in the locker room.
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Neuropsychologic Testing

- Computerized programs
 - Easily accessed
 - Can be done quickly with immediate results
 - Can obtain “baseline” data on all athletes
 - Can assess reaction times and processing speed



CogSport 

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RESOLUTION
INDEX


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Prevention

- “Concussion prevention” has become the “holy grail” for sports equipment marketers
 - Soccer head gear
 - Girl’s Lacrosse head gear/helmets
 - Pole vaulting helmet
- New football helmets, soccer head pads, mouth guards- **NO PROVEN PROTECTION FROM CONCUSSION!!**
- Research is limited and there is criticism of what has been completed



Effective Concussion Program

- Education & Awareness (Pre-Injury)
 - Baseline Neuropsychological & Balance Testing (preseason)
 - On Field Surveillance, Standardized Sideline Assessment
 - Post-Injury Neuropsychological & Balance Re-Testing
 - **Management**
 - **Physical Exertion**
 - **Cognitive Exertion (Academics)**
 - **Gradual Return-To-Play Protocol**
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State concussion policy landscape

- Concern that informal guidelines were not being applied uniformly
 - A number of highly publicized deaths and catastrophic injuries among youth athletes
 - State laws are aimed at preventing Second Impact Syndrome (*secondary prevention*)
 - Thirty-two states have youth sports concussion laws as of July 2011
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Timeline of LB 260

- Bill introduced by Sen. Lathrop on Jan. 11, 2011
 - HHS Committee hearing held Jan. 27, 2011
 - passed out of Committee 7-0
 - Floor Debate March 10-General File
 March 23-Select File
 April 8-Final Reading 43-0
 - Approved by Governor Heineman on April 9, 2011
 - Bill becomes Operative July 1, 2012
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Who is Covered by the Law?

- Students in approved or accredited public, private, denominational or parochial schools (Colleges and Universities are not covered in the law).
 - Athletes 19 years of age or younger that participate in organized sports (any city, village, business or nonprofit that organizes sports, charges a fee or is sponsored by a business or nonprofit organization.)
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Who Can Clear an Athlete?

- A licensed health care professional: physician or licensed practitioner under the direct supervision of a physician, a certified athletic trainer, a neuropsychologist; or
 - Some other qualified individual who (a) is registered, licensed, certified or otherwise statutorily recognized by the state of Nebraska to provide health care services **and** (b) is *trained in the evaluation and management of traumatic brain injuries among a pediatric population.*
-

What do Schools and Sports Organizations Need to do?

- Make available training approved by the Chief Medical Officer to all coaches.
 - Requires information be provided on an annual basis to students/athletes and parents or guardians prior to the start of practice or competition. The Chief Medical Officer will have examples of this information on the website.
 - Notification of the parent or guardian of the date and approximate time of the injury and the signs and symptoms of a concussion that were observed and any action taken to treat the student/athlete.
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When should a athlete be removed from play?

- When they are reasonably suspected of having a concussion by a coach or licensed health care professional who is professionally affiliated with or contracted by the school.
 - Such student/athlete shall not be permitted to participate in any supervised team athletic activities until cleared.
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When can the athlete return to play?

- When they have been evaluated by a licensed health care professional,
 - Received written clearance from the LHC professional. The law allows organizations to assume signature is from a qualified health professional (signature is conclusive and reliable evidence)
 - And have submitted the written and signed clearance along with the written permission to resume participation from the student/athlete's parent or guardian.
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Who keeps record of the clearance and permission?

- That is up to the school and sports organization.
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What does this mean to liability?

- Nothing in the Concussion Awareness Act shall be construed to create liability for or modify the liability or immunity of a school, school district, city, village, business or non profit.
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Where will the training and information be available?

The Chief Medical Officer of Nebraska will post the coaches' trainings and examples of the information sheets that schools and organizations can use at the Injury Prevention website:

- <http://www.dhhs.ne.gov/concussions>
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Summary

We know a lot about injuries to the brain

We have systems that can be put in place to

- Safeguard the student-athletes
 - Facilitate speedy but safe return to play
 - Reduce risk/ liability to the athletic system
 - Improve overall athletic system performance
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Summary

- Careful individualized clinical assessment and tracking from time of injury is necessary
 - ☞ Sideline assessment
 - ☞ Sensitive computerized Neuropsychological testing
 - ☞ Balance testing
 - ☞ Symptom reporting
 - Student-athlete should not return to play until symptom free & post-injury test results are normal at rest and after exertion.
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For More Information:

- www.dhhs.ne.gov/concussions
 - www.biane.org
 - www.cdc.gov/concussions
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