

Study: Brain Scans May Identify Concussion-Related Disease

BY MALCOLM RITTER
AP Science Writer

NEW YORK (AP) — A brain-scanning technique might one day help identify people with a disease linked to concussions in football and other sports, an illness now diagnosed only after death, a small study suggests. Scans of 14 retired football players at risk for the condition, called CTE, revealed

deposits of abnormal protein in a pattern resembling that found at autopsy in the disease. CTE stands for chronic traumatic encephalopathy. It causes progressive brain degeneration in athletes and others who've had repeated concussions and other blows to the head. Symptoms include memory loss, confusion, aggression, depression and progressive dementia. No cure is known. But

the brain-scanning approach raises the possibility of detecting the disease early on, when the chances would be greatest for success of experimental treatments, study authors said. It might also shed light on the disease and help athletes with decisions on retirement, said a study author, Dr. Julian Bailes, co-director of the NorthShore Neurological Institute in Evanston, Illinois. He and others present the

results in a paper released Monday by the Proceedings of the National Academy of Sciences. Dr. Joseph Maroon of the University of Pittsburgh Medical Center, who was not involved in the study, called the results "a major step forward in detecting CTE prior to death." Like the authors, he said the results set the stage for bigger studies to investigate the technique's usefulness.

The study of 14 retired professional football players included one with dementia, one without obvious symptoms and 12 with a mental functioning deficit called mild cognitive impairment. All had a history of repeated concussions and other blows to the head. For the study, they were injected with a substance that binds to deposits of an abnormal protein found in CTE and makes them visible

on a PET scan. The resulting PET images differed from results with 28 healthy people and 24 people with Alzheimer's disease, a condition that can resemble CTE in its symptoms. Maroon said the technique could offer a more definitive answer if scientists can find a binding substance that hones in more specifically on the abnormal protein.

Hale Named To All-State Team

BY DAVID NICHOLSON
Argus Leader

SIOUX FALLS - Sioux Falls rivals Lincoln and Washington — putative heavyweights in the boys Class AA field — met four times this season, culminating with the Patriots' come-from-behind win in the state championship game. In the title-game thriller, as in their three previous meetings — all Warrior wins — much of the attention was on the battling bigs inside. It was for good reason, and the 2015 South Dakota Basketball Coaches Association's Class AA all-state team only confirms it. After doing some heavy lifting all season long, Lincoln posts Addison Park and Malik Dunn, as well as Washington's Cole Benson and Deng Geu, all landed spots on the all-state team. Geu, a North Dakota State recruit, headlines the six-player first team as the top vote getter. The Gatorade South Dakota Player of the Year stood out for reasons passing his 6-foot-9 frame and highlight-reel dunks. As the Warriors' centerpiece at both ends of the floor, Geu averaged 17.4 points and 7.8 rebounds a game while shooting 57 percent from the floor and just shy of 80 percent from the foul line. As a junior, Geu flashed rare talent. As a senior, his skills were on display game-in-game-out. "Once it all came together, it was pretty special to see," said Washington coach Craig Nelson on Geu's maturation as a player. "He was doing some things that not a lot of players in South Dakota have been able to do in a long, long time." Park, meanwhile, leads the way for the state champion Patriots as a first-team selection. The 6-8 Minnesota State-Moorhead recruit anchored the middle for Lincoln, averaging 19.1 points and eight rebounds to go with a systematic 63 percent shooting from the field. A three-



Yankton's Brady Hale, 34, goes up for a shot during a home game during the 2014-15 season. Hale has been named first-team All-State in Class AA.

P&D FILE PHOTO

CLASS AA | PAGE 8

Golf: Lancer Men Finish Tenth In Third Round Of GPAC

SIOUX CITY, Iowa — Mount Marty College finished 10th in the third round of the Great Plains Athletic Conference men's golf qualifier, held Tuesday at Whispering Creek Golf Club in Sioux City, Iowa. MMC finished at 359, 17 strokes ahead of last place Briar Cliff. For the Lancers, Luke Loecker shot 85 and Collin Matthews shot 87 to lead the way. Robbie Neswick carded a 91, Dylan Brende shot 96 and Ben Jensen shot a 100 for the Lancers. The finish pulled MMC to within 14 strokes of Briar Cliff for tenth entering the final

round, scheduled for April 27 at Landsmeer Golf Course in Orange City, Iowa. Brende is the Lancers' top-ranked golfer in the tournament, sitting in 30th at 256. Northwestern began the day in fourth place in the conference standings, but after a winning score of 312, the Red Raiders vaulted to second place on the GPAC leaderboard with a total score of 920. Nebraska Wesleyan, who took the first qualifier, is now in first place with a team score of 911 after scoring a 300 on Tuesday. Midland is 11 strokes back

in third place (922) while Doane and Hastings are tied for fourth overall (608) after with a 932. Individually, Hastings' Ben Vetrovsky took medalist honors for GPAC Qualifier #3 shooting one over par (73). Justin Kraft of Northwestern and Keegan Bak of Morning-side tied for second each carding rounds of 76. Three golfers shot a 77 to tie for fourth. The overall clubhouse leader remains Kraft of Northwestern with a three round total of 221 (73-72-76). Two golfers are just a three

strokes off the top, including Cameron Farrell of Nebraska Wesleyan and Bak of Morning-side. The GPAC will qualify one team for the NAIA National Golf Championships. The medalist, if not a member of the championship team, will also advance to the championships. The NAIA National Championships are May 19-22, 2015, in Daytona Beach, Florida.

High School
Rolling Hills Tri.
WAUSA, Neb. — Hartington-

Newcastle beat out Osmond by eight strokes in a boys' golf triangular on Tuesday at Rolling Hills Golf Course. Hartington-Newcastle scored a 168, followed by Osmond (176) and Bloomfield-Wausa (192). Osmond's Zach Kumm shot a 40 for medalist honors. Hartington-Newcastle's Kolby Jueden shot 41. TEAM SCORES: Hartington-Newcastle 168, Osmond 176, Bloomfield-Wausa 192. INDIVIDUAL: Zach Kumm O 40, Kolby Jueden HN 41, Derek Jueden HN 42, Caleb Kalin HN 42, Chase Dendinger HN 43, Ethan Morten HN 43, Airc Kriener O 43, Eric Abbenhouse BW 43, Seth Guiz O 45, McGuire Mackeprang BW 47, Dante Schmit O 48, Quinn O'Brien BW 51, Cole Fiedler BW 51, Alex Kumm O 52, Aidan Kleinschmit BW 55

Softball: South Dakota Splits At Creighton

OMAHA, Neb. — The University of South Dakota pounded out 20 runs on 20 hits in the opener on the way to a doubleheader split with Creighton University in softball action on Wednesday. USD scored broke open an 11-11 game with a nine-run eighth to take the opener 20-12. Creighton (16-10) took the nightcap 7-6. In the opener, Allie Daly went 4-5 with three home runs and six RBI to lead USD. Katie Dinning went 4-5 with two home runs, a double and five RBI. Yvon Minogue went 3-5 with a home run and four RBI. Katie Cochran went 3-5 with two doubles. Morgan Hancock doubled and singled. Matley Jones homered in the win. Blake Ringle went 2-4 with two home runs and four RBI, and Jen Daro had two home runs and five RBI to lead

Creighton. Madison Frain allowed one run over three innings of relief for the win. Micaela Whitney took the loss, giving up all 20 runs. In the nightcap, Liz Dike went 2-3 with two home runs and three RBI, and Daro went 3-4 with a home run for Creighton, which rallied from deficits of 4-0 and 6-5. Minogue went 4-4 with a double and Daly went 2-4 with two RBI for USD. Daro picked up the win. Madison Frain took the loss. USD, 12-21-1, opens the home portion of its season on Saturday with a doubleheader with Fort Wayne, the first two games of a three-game set with the Mastadons. Start time for Saturday's doubleheader is noon, while Sunday's single game opens at 11 a.m.

SOFTBALL | PAGE 8

Yankton Girl Qualifies For National Hoops Shoot Finals

Bryn Kolberg of Yankton is one of 72 youth athletes ages 8-13 from the United States to qualify for the 2015 Elks Hoop Shoot National Finals in Springfield, Massachusetts. Kolberg advanced through the local, district and state levels of competition, recording a score of 20 made free throws at the Region 2 semifinals. The Elks Hoop Shoot National Finals tip off on April 18, in Springfield, the birthplace of

basketball. At the contest, the 72 national finalists will compete to sink the most of 25 free throws and claim the national championship. One boy and one girl in each of the three age groups will have their names permanently inscribed in the Naismith Memorial Basketball Hall of Fame.



Kolberg

College Hockey Set For Frozen Four In Boston

BOSTON (AP) — Traditional power or relatively unknown? One will win college hockey's biggest prize in the Frozen Four at the TD Garden. The first semifinal Thursday has a newcomer, Nebraska-Omaha, making its first Frozen Four appearance, against Providence, which hasn't made it to the final four since 1985. The nightcap features two of college hockey's traditional names: Boston University and North Dakota. "If you ask any casual hockey fan, name the top five or six college hockey programs in the country, every single person will mention North Dakota in one

way, shape or form," BU coach David Quinn said Wednesday. "You're talking about one of the most storied programs in college hockey. I also think BU would be in that mix." East vs. West. The national semifinals also feature two schools playing close to home.. BU is making its 23rd Frozen Four appearance, and fellow Hockey East member Providence is in the semifinals for the fifth time. The Terriers are chasing their sixth NCAA title, while the Friars are seeking their first. Both enjoyed the short ride, with BU's campus located about 2 miles from the arena. Provi-

dence is an hour south, in Rhode Island. "It was great making the bus trip up. We didn't need a movie, so that was good," Providence coach Nate Leaman said. "It's special that it's in Boston this year. I'm sure it's special for Boston University, also." North Dakota, looking to move one behind Michigan's NCAA-best mark of nine national championships, will be playing in the Frozen Four for the second straight year and 22nd overall. Both North Dakota and Nebraska-Omaha relied on strong goaltending to earn trips to Boston.

FROZEN | PAGE 8

NFL Hires Sarah Thomas, First Female Official

NEW YORK (AP) — Sarah Thomas saw the New York City area code pop up on her phone and started praying it was the NFL calling to say she'd been hired as a full-time game official. Not because that would make her the first woman to hold the job. Her hopes were those of any longtime official on the cusp of working at the sport's pinnacle. Thomas will be a line judge for the 2015 season, the league announced Wednesday. She's proud to serve as an example that anyone can succeed in any endeavor. But breaking down barriers was just a byproduct of her goals, not the goal itself. "It's just a mindset of an official that you don't want to be seen or noticed," Thomas said on a conference call with reporters. Then again, the NFL doesn't typically host a conference call for a newly hired official. The 41-year-old Thomas was both self-assured and self-deprecating in fielding questions, unfazed by the attention but also trying to deflect it. She's already become the first female official at the major college football level and the first to work a bowl game. Thomas expects to still wear her hair tucked inside her cap. She started doing it on a suggestion that it would keep her from sticking out, though these days it's more about habit than an attempt to blend in. "I think my hair's the least of my concerns," Thomas said, laughing. "I know that I will probably stand out being the first," she added, "but as far as players and coaches, I've been around a good little while, and I think they know who I am and just want to make sure I can do my job." Thomas was in the league's officiating development program in 2013 and '14 and has worked at mini-camps, training camps and exhibition games. She has officiated for Conference USA since 2007, with assignments including the Senior Bowl, the Pizza Bowl, the Fight Hunger Bowl, the Medal of Honor Bowl, and the league championship game in 2010 and '14. Thomas officiated two seasons in the United Football League, which is now out of business. "If you look at Sarah's background and her journey to get here, this is not something that happened overnight," said Dean Blandino, the NFL's vice president of officiating. "She's been officiating 20 years and been on our radar screen for 8-9 years." Thomas worked a Ravens preseason game last year, and coach John Harbaugh said that "she might be one of the better ones we've had." "She's a good ref," he added, "so it was a good choice." Shannon Eastin worked regular-season NFL games in 2012 as a replacement official, making her the first woman to do so in any capacity. She also was a line judge. Thomas played softball and basketball growing up and earned a college hoops scholarship to NAIA University of Mobile. She was always around football and inspired to become an official when she attended a meeting with one of her brothers. The NFL was never the goal back then, but once she got into it, her natural competitiveness kicked in. In 1996, Thomas became the first woman to officiate in a Division I-A high school game in Mississippi. Less than a decade later, she was hired by Conference USA, working as a line judge and head linesman. She said she hadn't experienced any problems with coaches or players. "Everyone has been very professional and looked at me

OFFICIAL | PAGE 8