

One, possibly two Outlaws' grapplers headed to state

By Steve Tool
Wallowa County Chieftain

The Outlaws traveled to Union for the 1A / 2A special district 4 Wrestling Championships on Feb. 14-15. The tournament decides which wrestlers will compete at the state championships in Portland.

Enterprise took nine wrestlers to the meet and placed eighth of 12 teams. Trace Evans won the 138 pounds bracket and a spot at state after defeating Levi Roath of Crane by fall, followed by a 7-0 decision over Anthony Hood of Culver.

"The first match was a kid he'd beat before," Fent said. "His last match against the Culver kid could very easily be the state championship match. Trace went out and wrestled his match and it turned out really well for him."

Charlie Evans at 182 pounds possibly also earned a state berth with a third-place finish. Evans first defeated Isaac Andres of Culver by fall and notched a 9-8 decision over Ronnie Morello of Joseph.

"I'm pretty optimistic the Charlie will get pulled in the state and his weight class," coach Court Fent said. "He wrestled so well this weekend, it was probably his best tournament. He's put in the work the last several weeks and his mindset and fire to perform were very fun to watch."



Trace Evans dominates yet another opponent in the 138 pounds bracket at District wrestling. Evans defeated all comers at the event, earning a trip to state.

Other wrestlers with wins included Cody Fent at 132 pounds with a victory by fall over Anthony Melchoir of Culver. Senior Drew Widener locked down fourth place at

220 pounds.

Coach Court Fent said he was proud of the team's performance and the next weeks would be spent preparing both of the Evans'



Outlaws wrestler Charlie Evans takes down Joseph wrestler Ronnie Morello for the fall in the 182 pound category at Union during the District tournament on Feb. 14-15. Evans placed third in the meet and is waiting to hear if he earned a state berth for his performance.

wrestlers for state while hoping Charlie Evans gets the nod for the tournament.

"I'm very optimistic that Charlie will get in," he said. "I'll be super excited for him if he does."

The state tournament takes place in Portland at Veterans Memorial Coliseum on Feb. 28-29.

Joseph to send two to state grapplers tournament

By Steve Tool
Wallowa County Chieftain

The Joseph Eagles sent nine wrestlers to the land of Union for the 1A/2A Special District 4 tournament on Feb. 14-15. Grapplers Zeb Ramsden at the 145 pound bracket and Jonah Staigle at 220 pounds, earned state berths at the meet while the Eagles placed seventh of 12 teams.

Ramsden placed second in his bracket, beating Carter Blackburn of Union by decision. Staigle first won by fall over Wylie Johnson of Culver and followed that victory with another fall, over Michael Day of Union.

Other wrestlers who won on the mat included Kennison Knifong who won by fall over both Isaac Coopman of Grant Union and Jake Doman of Crane, also in the 145 pound slot, ensuring Knifong a sixth-place finish. Harley Miller, wrestling at 160 pounds, won by decision over Noah Blood of Grant Union and also felled Tatin Ott of Crane for an eighth-place finish.

Ronnie Morello wrestled to a fourth-place finish at 182 pounds. He bested Aidan Henlin of Culver by fall and the same went for Issac Andres of Culver.

The state championships are held on Feb. 28-29 at Veterans Memorial Coliseum in Portland.



MORE THAN YOUR HANDS FULL — Union Bobcats wrestler, Michael Day, looks like he may have had second thoughts about wrestling Joseph Eagles standout, Jonah Staigle. Staigle pinned Day a mere 2:24 into the match to win the 220 pound bracket at 1A/2A Special District 4 tournament. Staigle will go on to state.

WWI helmet protects soldiers against blasts better than modern military helmets, say engineers

Ken Kingery
Duke University

DURHAM, N.C. — Bio-medical engineers from Duke University have demonstrated that, despite significant advancements in protection from ballistics and blunt impacts, modern military helmets are no better at protecting the brain from shock waves created by nearby blasts than their World War I counterparts.

And one model in particular, the French Adrian helmet, actually performed better than modern designs in protecting from overhead blasts.

The research could help improve the blast protection of future helmets through choosing different materials, layering multiple materials of different acoustic impedance, or altering their geometry.

The results appeared online Feb. 13 in the journal PLOS ONE.

"While we found that all helmets provided a substantial amount of protection against blast, we were surprised to find that the 100-year-old helmets performed just as well as modern ones," said Joost Op 't Eynde, a biomedical engineering PhD student at Duke and first author of the study. "Indeed, some historical helmets performed better in some respects."

Researchers have only recently begun to study the brain damage a shock wave can cause on its own — and for good reason. Helmets were originally designed to protect from penetrating objects like bullets and shrapnel, and blast waves will kill through pulmonary trauma long before they cause even minor brain damage.

With the advent of body armor, however, soldiers' lungs are much more protected from such blasts than they used to be. This has caused the incidence of pulmonary trauma following a

blast to drop far below that of brain or spine injuries in modern military conflicts, despite the difference in blast tolerance.

While there have been studies that suggest modern helmets provide a degree of protection from shock waves, no currently deployed helmet has been specifically designed for blast protection. And because soldiers today experiencing shock waves while wearing body armor aren't all that different from soldiers 100 years ago experiencing shock waves while in the trenches, Op 't Eynde decided to see if those old designs offered any lessons to be learned.

"This study is, to the best of our knowledge, the first to assess the protective capabilities of these historical combat helmets against blasts," Op 't Eynde said.

Working with Cameron "Dale" Bass, associate research professor of biomedical engineering at Duke, Op 't Eynde created a system to test the performance of World War I helmets from the United Kingdom/United States (Brodie), France (Adrian), Germany (Stahlhelm) and a current United States combat variant (Advanced Combat Helmet).

The researchers took turns placing different helmets on a dummy's head outfitted with pressure sensors at various locations. They then placed the head directly underneath a shock tube, which was pressurized with helium until a membrane wall burst, releasing the gas in a shock wave. The helmets were tested with shock waves of varying strength, each corresponding to a different type of German artillery shell exploding from a distance of one to five meters away.

The amount of pressure experienced at the crown of the head was then compared to brain injury risk charts created in previous studies. While all helmets provided a five-to-tenfold reduction

in risk for moderate brain bleeding, the risk for someone wearing a circa-1915 French "Adrian" helmet was less than for any of the other helmets tested, including the modern advanced combat helmet.

"The result is intriguing because the French helmet was manufactured using similar materials as its German and British counterparts, and even had a thinner wall," Op 't Eynde said. "The main difference is that the French helmet had a crest on top of its crown. While it was designed to deflect shrapnel, this feature might also be deflecting shock waves."

It also might be that, because the pressure sensor was mounted directly under the crest, the crest provided an additional first layer for reflecting the shock wave. And the French helmet did not show the same advantage in pressure sensors at any other location. For locations such as the ears, performance seemed to be dictated by the width of the helmet's brim and just how much of the head it actually covered.

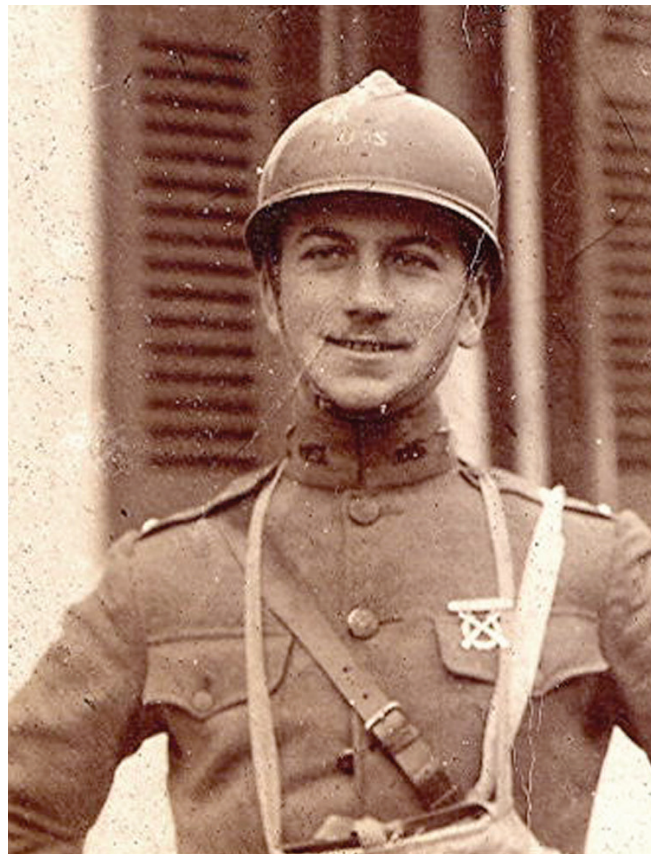
As for the modern helmet, Op 't Eynde theorizes that its layered structure might be important in its performance. Because a shock wave is reflected every time it encounters a new material with a different acoustic impedance, the layered structure of the modern helmet might contribute to its blast protection.

But no matter which helmet was tested, the results clearly indicated that helmets might play an especially important role in protecting against mild blast-induced brain trauma. According to the researchers, this finding alone shows the importance of continuing this type of research to design helmets that can better absorb shock



Duke University

The French Adrian helmet's crest may be part of the reason it offers better protection from blasts than modern military helmets according to Duke University researchers. The helmet shown above is a French artillery helmet. The helmet was also adopted by American Field Service forces and bore a U.S. insignia on the front.



Alexander and Sons Restorations

WWI U.S. officer adopted a French Adrian helmet. The helmets were the official headgear of the U.S. American Field Forces, and were frequently worn by other American forces, especially officers who had to purchase their own uniforms and helmets.

waves from nearby overhead explosions.

"The difference a simple crest or a wider brim can make in blast protection, shows just how important this line of research could be," said Op 't Eynde, who initially came to Duke on a scholarship from the Belgian American Educational Foundation, which was estab-

lished with funds from American relief efforts in Belgium during World War I.

"With all of the modern materials and manufacturing capabilities we possess today, we should be able to make improvements in helmet design that protects from blast waves better than helmets today or 100 years ago."

Modern tumor found in dinosaur

Bruce Rothschild
Tel Aviv University

The fossilized tail of a young dinosaur that lived on a prairie in southern Alberta, Canada, is home to the remains of a fossilized 70-million-year-old tumor. That type of tumor, LCH (Langerhans cell histiocytosis), is a modern-day rare and sometimes painful disease that still afflicts humans, particularly children under the age of 10. This type of tumor is benign.

Researchers at the Tel Aviv University and Indiana University made the discovery.

Professor Bruce Rothschild and Darren Tanke spotted an unusual structure in the vertebrae of a tail of a young dinosaur of a grass-eating herbivore species, common in the world 66 million to 80 million years ago. There were large cavities in two of the vertebrae segments, which were unearthed at the Dinosaur Provincial Park in southern Alberta, Canada.

It was the specific shape of the cavities that attracted the attention of researchers.

"They were extremely similar to the cavities produced by tumors associated with the rare disease LCH that still exists today in humans," Tanke said. "Most of the LCH-related tumors, which can be very painful, suddenly appear in the bones of children aged 2 to 10 years. Thankfully, these tumors disappear without intervention in many cases."

"The micro-CT produces very high-resolution imaging, up to a few microns," Hilla May said. "We scanned the dinosaur vertebrae and created a computerized 3D reconstruction of the tumor and the blood vessels that fed it. The micro and macro analyses confirmed that it was, in fact, LCH. This is the first time this disease has been identified in a dinosaur."