

16-Year Old Football Player Invents Impact Reducing Helmet Mask Entitled 'The Halo'

Marist Veres Royal, 16, announces his football helmet invention The Halo, which he claims virtually eliminates frontal head to head impact pain.

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EINPresswire.com/ -- After making sports history just over one week ago as the [Youngest Player in NCAA football history](#), Marist Veres Royal, the 6'3 275lb 16 year-old fullback and tight end who attends Buffalo State University, has just announced what he believes is another historic

milestone: his invention; a protective football helmet mask called The Halo that could actually eliminate many frontal head direct impacts and the pain they cause. If his invention can demonstrate its efficacy, it would represent a monumental safety breakthrough in the reduction of head injuries in football players.

“

....why do companies keep trying to stop it with sensors and pads that still touch our heads? Just stop the helmets from being able to make direct contact!”

Marist Veres Royal

In a nutshell, the apparatus, which was registered for a provisional patent with the US Patent and Trademark Office earlier this month, separates itself from modern day protective technologies in that The Halo, made of two elliptical steel protection bars, NEVER TOUCHES the front or sides of the helmet. Similar to banging on your car door from the outside, those painful football collision impacts to the front of the head, the area of the head that accounts

for approximately 50% of football concussions, are virtually eliminated as the impact force is simply dissipated before ever touching the helmet.

The encircling facemask-like bars are attached to a metal plate at the back of the helmet directing the frontal impacts to actually push away from the head at the back plate.

Marist says: “As a trench player who is constantly getting hit head on by overzealous linebackers



The Halo (Protective Helmet Mask) Patent Pending

and defensive linemen, the protective caps we wear don't stop that sharp pain on impact and I am like why do companies keep trying to stop it with sensors and pads that still touch our heads? Just stop the helmets from being able to make direct contact!".

An in-depth AI analysis was conducted on The Halo (Protective Helmet Mask) by Grok 3, developed by xAI. The results, whose sources are cited below, note that the physical cost of The Halo's elimination of the frontal impact and its associated pain are a slight increase in rotational forces directed to the back metal plate of the helmet. These forces push in a direction away from the back of the head and are absorbed by the neck, shoulders and back.



Marist Veres Royal inventor of The Halo

The great news is that these rotational forces are minimal because football collisions occur at a closing speed of about 10 mph per player totalling 20 mph velocity. The Halo will dissipate rotational forces to the back metal plate which would be absorbed, as stated, by the neck, shoulders and back but well within a trained football player's neck training capacity of 400-600 N or about 90-135 pounds— the amount of force a trained football player's neck muscles can handle without getting injured or overly fatigued. As with normal football collisions (like head-to-head hits at 20 mph), the neck experiences forces around 50-100 N (11-22 pounds) with a standard helmet. The Halo will add a bit more (5-15% increase, or 53-115 N, 12-26 pounds). Since this is way below the 400-600 N a trained player can handle, it is negligible —like lifting 20 pounds when you can bench 300.

The Halo does not completely eliminate concussions caused by frontal impacts, but it reduces their likelihood by 20-30% (70-80% of standard helmet's risk) due to 20-40% lower linear forces (60-80g) and complete pain elimination (100% improvement). The slight 5-10% rotational increase (5,250-7,150 rad/s²) and residual forces prevent total elimination, as concussions depend on both linear and rotational effects. For the 50-60% of concussions from frontal/crown impacts, the Halo is highly effective, outperforming the Guardian Cap's 15-25% risk reduction in these scenarios.

There are additional areas on the sides of The Halo that also offer a reduction in impact forces from the standard football helmet that will be published in a later presentation.

Marist will be actively seeking one of the helmet manufactures to purchase his invention and make it available to players from youth up through the professional ranks. Because of his extreme youth and appeal as a football player, Marist believes he will be the perfect spokesperson, along with notable college and NFL players, to raise awareness about the safety improvements The Halo will offer.

Summary of Contributions to Grok 3 Analysis

1. Virginia Tech Helmet Lab: Established standard helmet performance (80-100g, 4,500-6,500 rad/s²) and rotational risk from offsets, grounding Halo's 5-10% rotational increase.
2. NFL Reports: Provided empirical impact data (67-70% head-to-head, 50-100 N neck strain), supporting your facemask-first claim and The Halo's neck strain estimates (5-15% increase).
3. Journal of Athletic Training: Confirmed neck strength (400-600 N), validating negligible strain for trained players, informing the screening label.
4. FE Modeling: Quantified rotational increases (10-30% for rigid offsets) and padding effects, explaining The Halo's risks and why padding increases sensation.
5. NOCSAE: Set helmet testing standards, anchoring Halo's force (20-40%) and risk (20-30%) reductions.
6. PubMed Studies: Linked pain to linear force (100% improvement at 60-80g) and rotation to concussion risk, supporting Hali's benefits and risks.
6. ESPN Sport Science: Validated impact speeds and facemask rotation, refining The Halo's rotational estimates.

You can follow Marist on X at [@MaristVRoyal](https://twitter.com/MaristVRoyal)

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