

# FALL & INJURY MANAGEMENT TECHNOLOGY

## INJURY PREVENTION FOR EPILEPSY

integrated approaches to improve  
prevention

# THE PROBLEM

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**64**  
**million**

Head injuries (TBI) reported every year globally. BY 2020 IT WILL BE THE  
**MAIN CAUSE OF LONG  
TERM DISABILITY.**

# EPILEPSY | FALLS | SOCIAL IMPACT

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**27**  
**million**

POTENTIAL DAILY  
DROP SEIZURES

Most injuries related to seizures occur because of unfortunate interactions between the seizing patient and the environment.

Patients can fall and strike their head or fracture bones. Deficiencies in prevention, care, and research urgently need to be addressed to reduce the huge burden and social cost!



The focus on quality of life as an endpoint is leading physicians to reexamine our approach to the management of epilepsy.

# CURRENT FALL & INJURY RISK AIDS

## **Low Acceptance**

People need a comfortable and discrete protection |

QUALITY OF LIFE

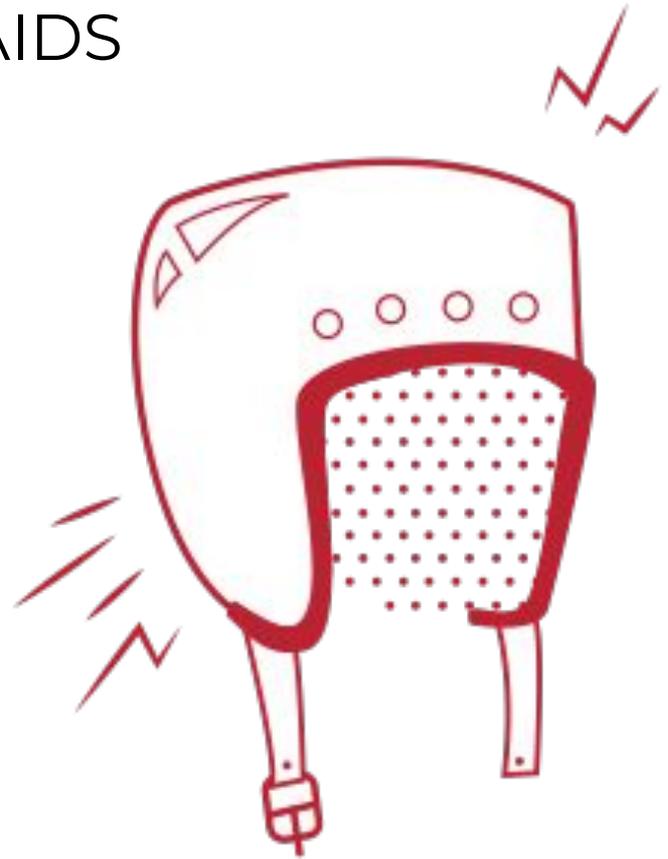
## **Low Self Esteem**

People don't want to wear hard helmets in their daily life |

NON INVASIVE

## **Limited Ways to wear**

ONLY SPORTS | INDUSTRY | COMBAT



# HOW TECHNOLOGY CAN HELP

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## YOUR STYLE | FASHION

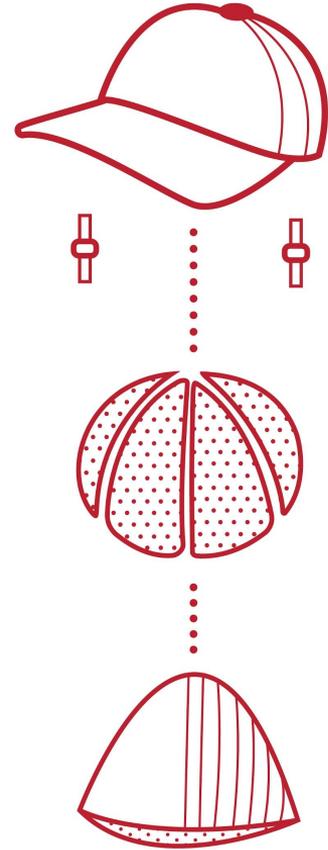
Baseball caps and beanies are just the beginning

## HIGH IMPACT FOAM

High shock and impact protection, yet still breathable, flexible and discrete.

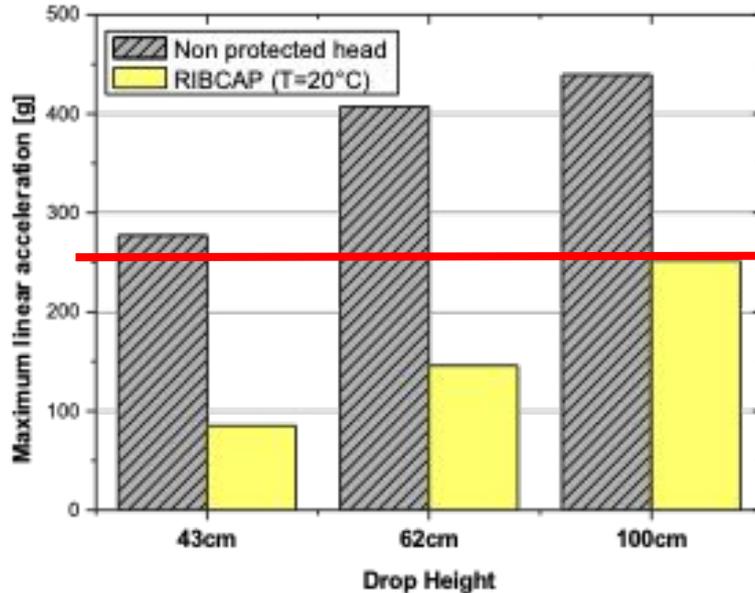
## COMFORTABLE

Breathable & absorbent for your comfort indoors and outdoors



# LAB TESTING

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Scientifically defined critical limit of injury risks in impact situations

**The critical impact speed can be increased by 55% when protected by Ribcap**

Compared to an unprotected head, Ribcap has a significant effect on the biomechanical stress.

# UAMS FALL PREVENTION STRATEGY

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UNIVERSITY OF ARKANSAS  
FOR MEDICAL SCIENCES

Prevention is Key to Avoiding Head Injury

**Christina Rone RN, OCN, Safety Resource Nurse**

**Title:** Using Protective Caps to Reduce Head Injuries from Falls

**Authors:** Christina Rone, RN; Amy Hester, PhD, RN, BC

**Affiliations:** University of Arkansas for Medical Sciences (UAMS)  
Medical Center

## Problem and Purpose:

- Falls remain the most commonly reported adverse events in hospitals.
- The most serious injuries from falls are head injuries and fractures.
- Current helmets have been the only solution to prevent head injuries.
- Patients often refuse to wear them.
- The purpose of this project was to determine if using protective caps would be an acceptable alternative in reducing head injuries for patients refusing to wear helmets.



# UAMS FALL PREVENTION STRATEGY



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Prevention is Key to Avoiding Head Injury

**Christina Rone RN, OCN, Safety Resource Nurse**

**Method:** A protective cap called Ribcap was introduced into care in May 2015. Patients at risk to fall were educated on their risk and offered helmets. Patients refusing helmets were offered Ribcaps as an alternative. Incidence of head injury and patient satisfaction with the Ribcaps were monitored.

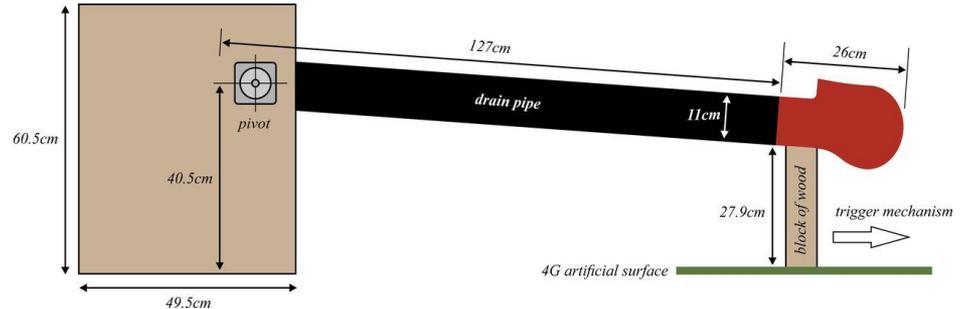
**Outcomes:** No patients were willing to wear helmets. Patients readily accepted the Ribcap product with high satisfaction. There have been no head injuries on the units using the Ribcaps since initiation of the devices.

**Conclusions and Recommendations:** Protective caps are attractive to patients and may be a viable solution to reducing head injuries in hospitalized adults.



# STANDARDISED TESTING FOR MEDICAL HEADGEAR

Ribcap is being tested according to the Rugby helmet standard, since this is the most suitable test available for medical headgear.



# Further developments in injury prevention

## ***Turns on the light when the brain switches off.***

The slim headset sends brain activity information to a smartphone. The Epihunter proprietary smartphone app interprets the data and turns on the smartphone light when an absence seizure occurs. Our secure web portal provides a clear overview of seizure activity.

### **Smartphone app**

Unique and proprietary application detects and signals epileptic absence seizures in realtime in the classroom, at work or at home. Seizure duration is shown and additional information can be entered.

### **Full access to secure web portal**

Safe access to objective information about seizure frequency and seizure length. Charts and tables allow easy-to-interpret overview of relevant data, collected via the Epihunter app.



THANK YOU VERY MUCH

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