

NOT FOR PUBLICATION
UNTIL RELEASED BY
HOUSE ARMED SERVICES COMMITTEE
TACTICAL AIR AND LAND
SUBCOMMITTEE

STATEMENT OF

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BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

CONCERNING

THE USE OF COMBAT HELMETS, VEHICLE ARMOR, AND BODY ARMOR BY
GROUND FORCES IN OIF AND OEF

ON

JUNE 15, 2006

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Operation Helmet is a grassroots community-based 501-c-3 charity that supplies helmet upgrades to troops in or headed for Iraq and Afghanistan. The request is made by the Soldier, Sailor, Airman, Marine, Guardsman, Reservist or their family. It was started when our grandson Justin, then a LCPL , USMC, was advised by a GySgt just back from Iraq to get the BLSS upgrade for his PASGT, as it might save his life in a blast environment. Justin called me and asked me to check it out.

At the onset, I researched the medical and scientific literature, spoke with Navy blast research folks, USAARL, blast researchers in France, de-mining companies in Scandanavia, Germany, and a few others to see if this was a valid concern and remedy. I was convinced it was.

We then looked to the literature/releases from Natick Soldier System Center and their studies on the benefits of shock-absorbing pads versus nylon suspension systems (circa 1934) showed a marked improvement in attenuation of impact g-forces and thereby deriving significant decrease in BABT (behind armor blunt trauma) in the MICH and PASGT helmets. I checked with the Marines, and was told the BLSS kit by Oregon Aero was not funded but was the only authorized retrofit for the PASGT. I understood the OA pad system had been used in the original MICH and early ACH helmets. Accordingly, we sent Justin kits for his twelve-man team. They installed them, loved them but wouldn't keep them unless the Company of 100 could all get them. That was the start. A goal of 100 kits.

As word spread throughout the Fallujah area, more and more units asked for help upgrading their PASGT helmets. Marines emailed us with complaints that their PASGT actually interfered with their combat effectiveness. The helmet was unstable and would pitch forward over their eyes when they fell into the prone firing position, wore NVG's, or in the case of medics, bent over to treat wounded comrades. The leather headbands quickly became brittle,

cracked, and caused sores on the forehead. The nylon strap/shoestring suspension would 'wear' on any protuberance of the skull and cause sores.

These problems were resolved by removing the 'old' nylon strap suspension and placing a series of highly engineered shock-absorbing, sweat-wicking pads to line the helmet interior. The pads could be adjusted both for fit and air flow.

The introduction of IED's, land mines, and RPG's against vehicles and troops had introduced blast effect with resultant head injury and brain damage as a principal wounding factor. Evidence and fist-hand feedback suggest the unmodified PASGT would rock easily when struck by the blast effect and the slam into the skull, the Kevlar helmet being harder won every time. By eliminating the airspace that separated the nylon suspension system from the helmet shell, contact between the helmet and skull was stopped and the pads absorbed and spread out the energy forces transmitted by the blast wave, fragments carried thereon, and being tumbled along the ground or inside vehicles.

Marine families heard from their loved ones as well. Together, we all worked to provide more and more helmet upgrades to the troops. By June, 2004 we had shipped over 1,000 upgrades to the Marines in Iraq.

Television, newspaper and radio stations in Houston carried stories about our effort, and a lawyer volunteered to set us up as a corporation and help with the paperwork to become a 501-c-3 public charity so all deductions would be tax deductible. The public became more involved, donations arriving daily by mail from individuals, companies, as well as veterans and social organizations.

Air Force Special Ops helicopter crews asked for help as well. While flying, they had the best helmet in the world, but when they hit the deck, intentional or otherwise, they had to resort

to the unstable, uncomfortable, and operationally inferior PASGT. We complied; the Air Force Association kicked in an initial \$1,000.00 to help propel the upgrade efforts.

Army troops still wearing the PASGT asked for the same upgrade and we did so until we received a call from the Chief of Staff's office saying we could stand down. The Army purchased hundreds of thousands of new ACH (advanced combat helmets) that incorporated shock-absorbing pads from the factory. However, we still receive requests from Guard and Reserve units that are still using the PASGT helmet.

As word spread from the front and through the military 'home' network, families started holding fund-raising activities, Marine and Air Force organizations pitched in, and America opened its heart to the troops. National radio coverage was initially provided by Glenn Beck and Al Franken. Opposite ends of the political spectrum met on the grounds of helping the troops regardless of feelings for or against the war.

When the new Marine LW helmet was introduced, we thought we would be able to suspend operations. Emails from Iraq quickly made us reconsider. The new helmet, while more stable than the PASGT because it incorporates a four-point retention system, still had a nylon internal suspension (a 'skull-cap'/strap) that rested on the skull with air between the head and the helmet. Information from DVIBC (Defense and Veterans Brain Injury Center) continued to relate that injuries/deaths from IED's/blast effect continued to be the major cause of wounding and death of Coalition troops.

When we asked Marine Corps Systems Command if the BLSS kit was authorized for the new LW, we were told it 'wasn't needed' and the new helmet provided 'enough' protection for Marines. There was no outright prohibition. Being skeptical old folks, we then asked OA to fund for us a study at an independent lab to show the test results of substituting their upgrade kit in the

Marine LW helmet. The results were as they had been for the PASGT. Unmodified helmets allowed significant pass-through of impact g-force compared to ones retrofitted with the pad system. (Attachment 1) We continue to supply Marine 'outside the wire' troops with the upgrade kit from Oregon Aero to replace the sling suspension system of the LW and receive high praise for the added comfort and stability as well as narratives of blast survival that the trooper felt would have been impossible without the upgrade.

Air Force and Seabee troops doing convoy/security also ask for the upgrade, and as they are still afflicted with the PASGT, so we send them the upgrade kit. Navy Seabees, newly tasked with convoy/security duty also requested help and we complied. Shortly after we began supplying the Navy, they agreed to outfit the Seabees with the upgrade and purchased some 8,000 BLSS kits for their use. We are once again getting requests from Seabees as well as Coastal Patrol Boat sailors asking for helmet upgrades.

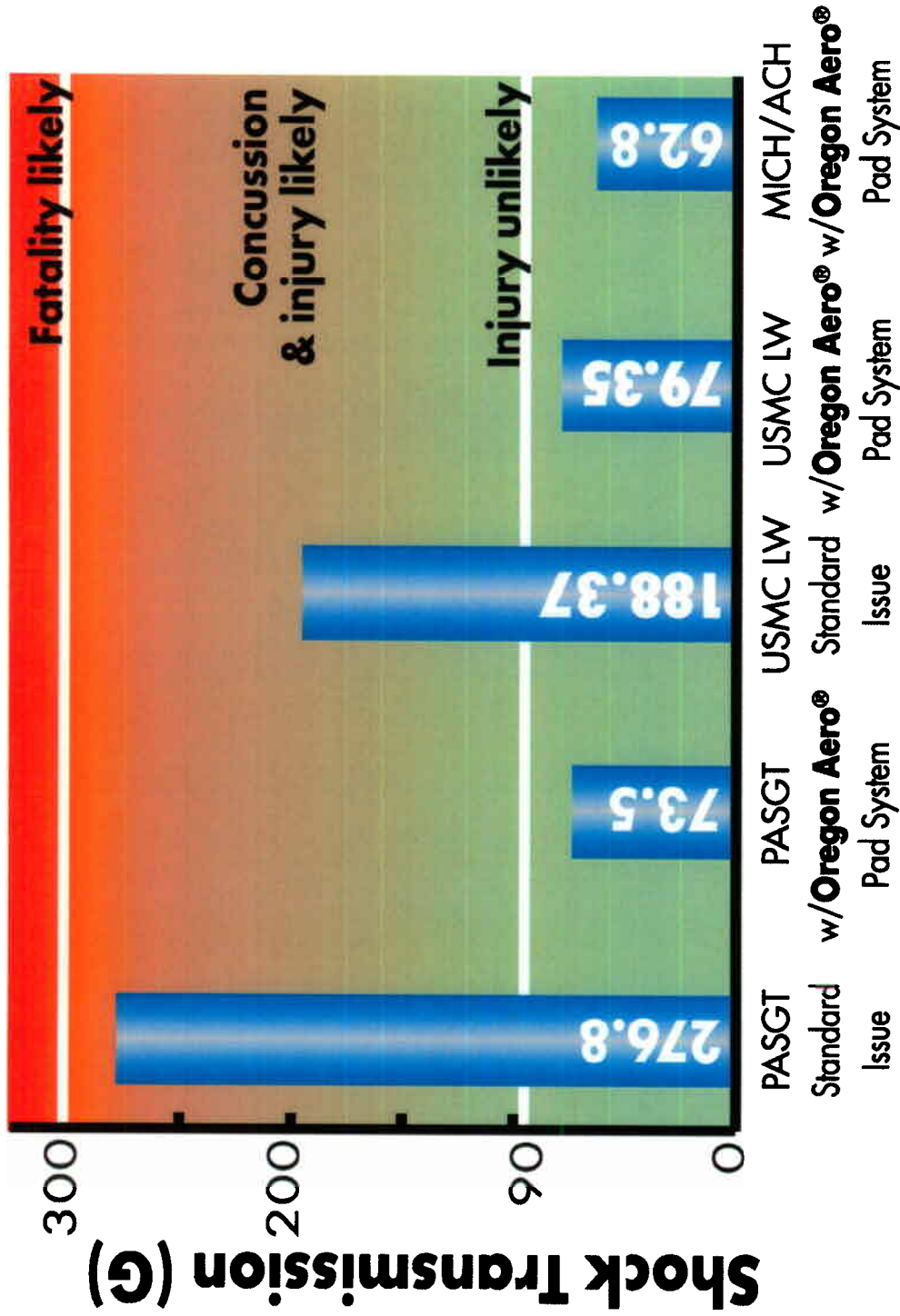
The Air Force has announced they plan on providing the ACH for their troops performing duty 'previously performed by Army'. We have no current information as to the availability of the new helmet up ground units of the Air Force. Skydex, a new entry in the field of helmet upgrades, show good lab test results (Attachment 2) with their technology of hemispherical plastic 'bubble' shock-absorbing pads, but they've not been tested by any military unit we know of. We've sent about 1000 of their kits to Air Force ground pounders doing primarily maintenance and want to do their job in more comfort with little chance of indirect fire/IED's threatening them.

With more media coverage: Lou Dobbs on CNN, WLW Cincinnati AM/XM coverage, stories picked up by newspapers across America, and more donations have come in. Cher, the famous actress, director, singer, producer and all-around grand lady joined our effort and has

been featured on CSPAN, resulting in yet more publicity. We receive from 5 to 50 letters a day from all across America. Some contain a single dollar wrapped in paper, some a check for everything from \$5 to \$25,000.00. We spend virtually every dime on the purchase and shipping of the helmet upgrades. There are no salaries paid, no trip expenses deducted, and the only 'predictable' expenses are bank charges and postage/shipping. As of 6/8/06, Operation Helmet has sent 7, 926 helmet upgrades. Of these, approximately 300 have gone to the Army, 800 to the Navy, 1,000 to the Air Force and the remainder to the Marines.

In closing Mr. Chairman, I want to emphasize Operation Helmet has been and remains a grassroots labor of love by the American public to provide meaningful support to our troops. Feedback from the troops is universally positive regarding the helmet upgrade pad system and we shall therefore press onward in providing the kits until their mission is complete.

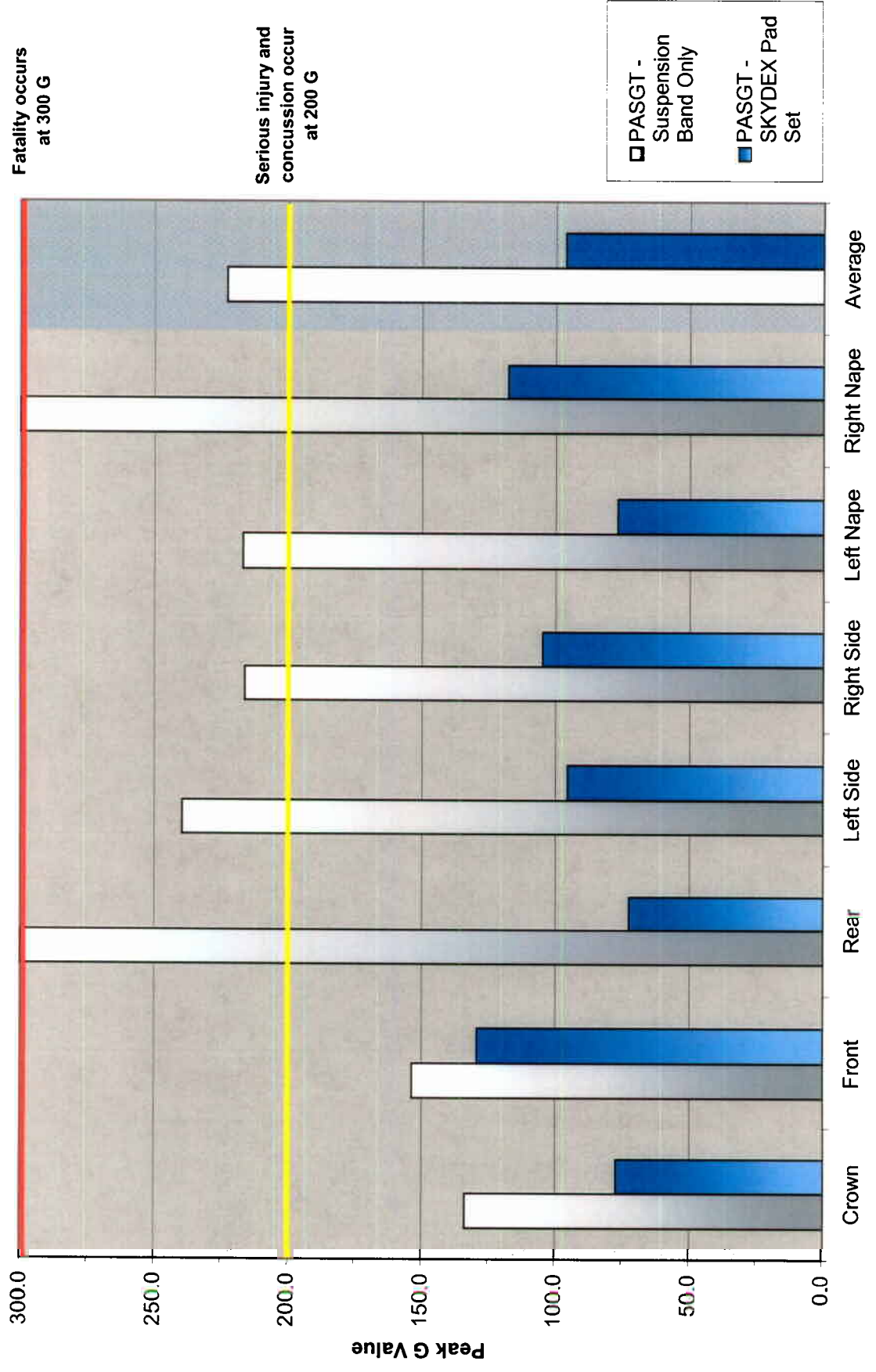
Average impact performance at 3m/sec (~10 ft/sec)



Impact tests were conducted to ANSI Z90.1-92@10ft./sec. specifications by an independent laboratory.

Chart provided by Oregon-Aero

Peak G Impact Data
PASGT Suspension Band versus SKYDEX Pad Sets inside a PASGT Helmet
(Tested to ACH Performance Specification, Non-Ballistic Impact Protection requirement, section 3.12)



Data at each impact location represents the average of two hits per location at 10 ft/sec.



Bearing the Scars of Battle

Since the Iraq war began in March 2003, an average of nearly 16 U.S. soldiers have been wounded in action each day—97% of them after the end of "major combat." A breakdown:

HOW THEY WERE WOUNDED



PURPLE HEART: First awarded in 1793, this medal is given to soldiers wounded in combat.



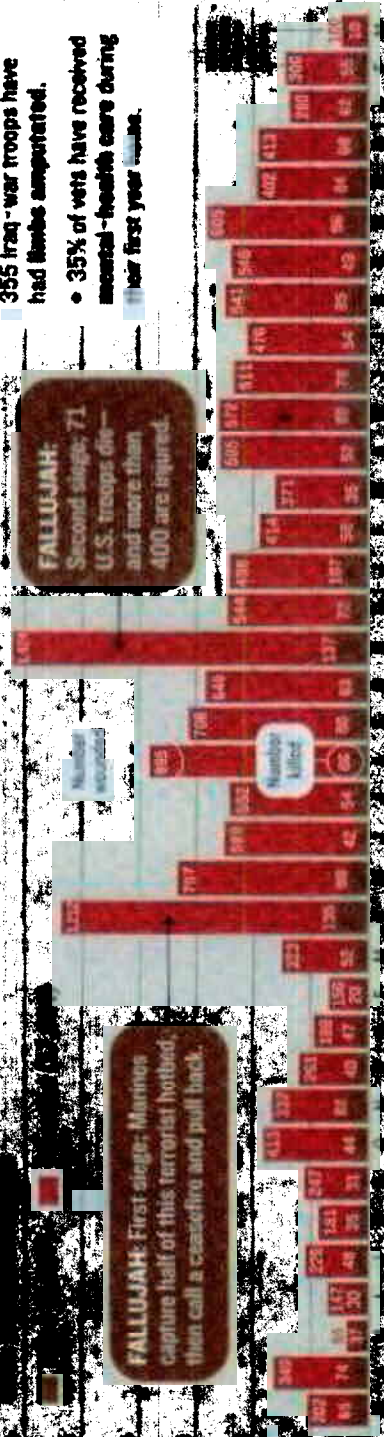
Injuries caused by the sick effects of air strikes, aerial fire, shrapnel rounds and airstrikes.

Includes injuries from aircraft and vehicle crashes, falls, grenades, burns, etc.

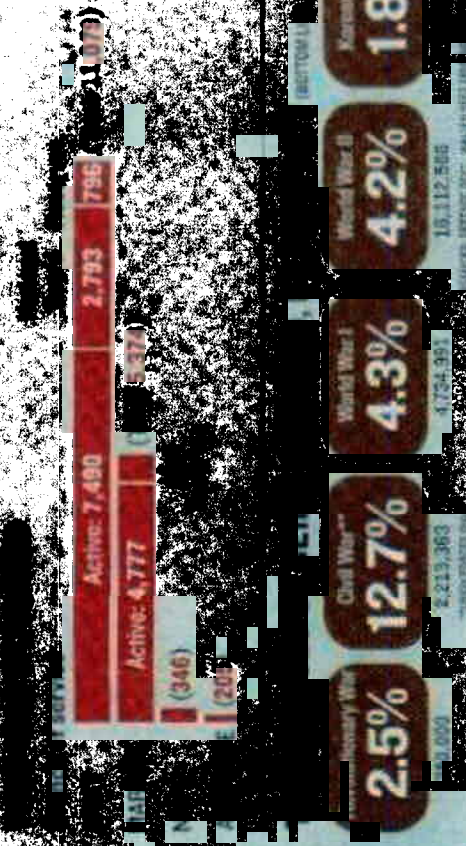
- More than 1,700 soldiers have suffered brain injuries in Iraq and Afghanistan.
- The Army estimates that 355 Iraq-war troops have had limbs amputated.
- 35% of vets have received mental-health care during their first year home.

FALLUJAH: Second siege: 71 U.S. troops die—and more than 400 are injured.

FALLUJAH: First siege: Marines capture half of this terrorist hotbed, then call a ceasefire and pull back.



| Rank | Age | Race/ethnicity |
|---------|-------|----------------|
| Officer | 422 | White 62% |
| E5-E9 | 22-24 | Black 9% |
| E1-E4 | 25-30 | Hispanic 6% |
| | 31-35 | Multiple 20% |
| | >36 | Other 3% |



- 2.5% Revolutionary War
- 12.7% Civil War
- 4.3% World War I
- 4.2% World War II
- 1.8% Korean War
- 1.8% Vietnam War
- 0.02% Persian Gulf War
- 3.1% Iraq War

