FY19 FATALITIES as of 12 September 2019	Aviation	Ground On-Duty	Car	Motorcycle	Other	TOTAL
	8	6	15	6	9	44

www.safety.marines.mil *Numbers in fatality categories are subject to change based on final disposition of investigation.* Vol. 19 - Ed. 7

COMBATTING THE BLUE THREAT

COMMANDANT'S SAFETY ACTION CAMPAIGN

Inside This Edition...

Getting Deadlier in the Dark

From the Director...

As Marines, we do not want to just win battles — we want to dominate. We are looking for every possible advantage. Operating at night, aided by night vision devices (NVDs), provides us a significant advantage over our enemies. If we are shooting each other instead of the enemy it lessens the advantage we were attempting to gain, and we find ourselves doing their job by taking Marines out of the fight.

A number of recent night, live-fire mishaps indicate we need to step back and validate our training, our equipment, and our procedures. Marines need to understand how to focus their NVDs, and also have access to the proper equipment and facilities to do so. They need to understand the importance of pre-mission environmental assessments and the online light level tools available. Marines need to be familiar with the reduced field of view, depth perception, and lack of color vision that go along with the amplified light levels provided by NVDs. The Marine Corps needs to make sure both ground and aviation units have the access they need to Aeromedical Safety Officers and to Night Imaging and Threat Evaluation labs. The institution also needs to carefully compare ground and aviation training and readiness manuals, initial training programs, and training currency intervals.

We need your input to identify current shortfalls in night vision device training, facilities, equipment, and procedures. The end state of this effort is a world class training system executed in modern facilities, supporting the latest technological capability in the hands of the deadliest riflemen on the planet.

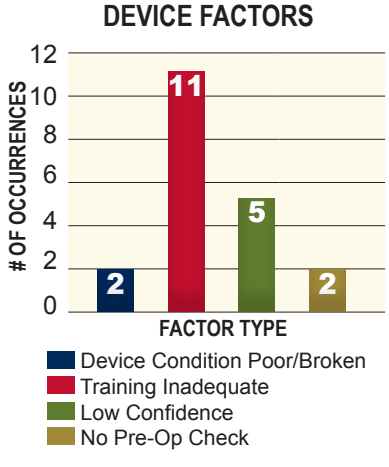
ALCOHOL AWARENESS

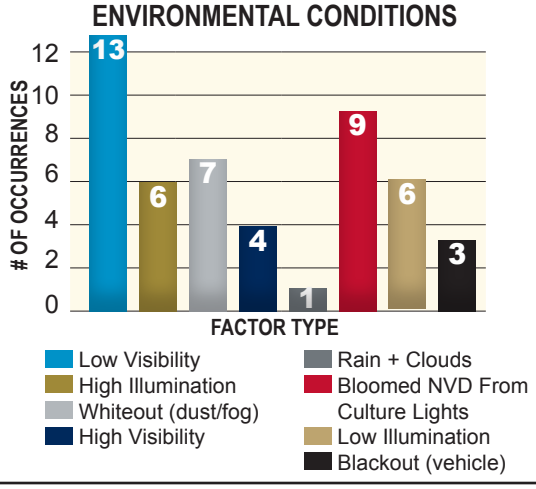
328 Marines have been arrested for DUI in FY19.
If you're going to drive, DON'T DRINK! NOT ONE DROP!
If you're going to drink, DON'T DRIVE!

In the Dark of the Night: Lessons Learned

From 2008-2018, the primary contributors to NVD mishaps were inadequate training and low visibility.

Standardized NVD training will enhance our performance during training and actual mission execution.





DID YOU KNOW?

Previous Blue Threat editions can be found at: **www.safety.marines.mil.** You can also contact us with questions or suggested topics by emailing **BlueThreat@usmc.mil.**

FY19 FATALITIES as of 12 September 2019	Aviation	Ground On-Duty	Car	Motorcycle	Other	TOTAL
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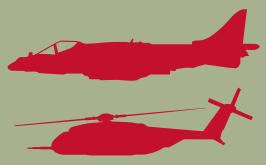
Recent Class A Mishaps



- **AVIATION**

  20 May 2019: MCAS Cherry Point, NC – **AV-8B** pilot ejected during a functional check flight due to an aircraft malfunction, resulting in the complete loss of the aircraft.

  6 June 2019: Imperial County Airport, CA – During a routine training, a **CH-53E** executed a precautionary emergency landing shortly after takeoff, due to smoke and fumes in the aircraft.

- **GROUND ON-DUTY**

  28 May 2019: Darwin, Australia – E-3 sustained fatal injuries as the A-driver during a **HMMWV** rollover. He was not wearing the lap belt portion of his seat belt, and wasn't wearing PPE.

  28 Jul 2019: Twenty-Nine Palms, CA – A LCpl was shot in the neck during a training exercise. SNM is permanently paralyzed from the neck down.

  21 Aug 2019: Frederick, MD – A Poolee lost consciousness after completing the mile-and-a-half run portion of the initial strength test at a recruiting station. He was taken to hospital where he died 2 days later.

- **OFF-DUTY (CAR)**

  14 June 2019: Anaheim, CA – E-4 was involved in a single vehicle accident, ejected from the vehicle, and died from his injuries.

  15 June 2019: Beaufort, SC – E-3 was involved in a vehicle accident and died.

  28 June 2019: Tallahassee, FL – E-3 was ejected from his vehicle during a single vehicle crash. He was not wearing a seatbelt.

  26 July 2019: Forest, VA – E-3 died in a single vehicle accident.

  16 Aug 2019: MCB Quantico, VA – A PFC died from injuries suffered during a single vehicle crash aboard MCB Quantico. Alcohol is believed to have been a factor in the crash.

  24 Aug 2019: San Bernardino, CA – A Sgt died in a single vehicle accident when he lost control of his vehicle on a curve, and the vehicle crashed and caught fire.

- **OFF-DUTY (MOTORCYCLE)**

  11 Sept 2019: Carlsbad, CA – While on leave, a PFC lost control of his motorcycle, slid across five lanes of traffic and was struck and trapped beneath a truck on I-5. SNM was pronounced dead at the scene. He was wearing full PPE at the time of the accident.

- **OFF-DUTY (OTHER)**

  13 July 2019: Tustin, CA – E-2 was struck by a motor vehicle while crossing the street and died from his injuries.

FY19 Class A Mishaps

8 AVIATION MISHAPS resulted in the **death of eight Marines**.

8 GROUND MISHAPS resulted in the **death of six Marines** and the permanent **disability of two Marines**.

15 CAR MISHAPS resulted in the **death of fifteen Marines** (**three** were **alcohol-related incidents**).

6 MOTORCYCLE MISHAPS resulted in the **death of six Marines**.

9 OTHER MISHAPS resulted in the **death of nine Marines** (**five** were **alcohol-related incidents**).

Night Vision 101

Lighting Up the Night

NVDs are sophisticated electro-optical tools that improve night vision by amplifying all available light, allowing us to see in conditions too dark for the naked eye.

Ambient light is captured and amplified by an image intensifier. All images displayed on the screen are monochromatic and appear as shades of green or white depending on the type of NVD. Most NVDs use green phosphor technology, but newer NVDs, such as the AN/PVS-31A, use white phosphor images to improve the user's ability to recognize objects at a greater distance.

Maintenance

⚠ WARNING

Before using NVDs, it is important to confirm they work. If your NVDs aren't working properly, return them to the armory and get a working pair.

Issues Requiring NVD Maintenance

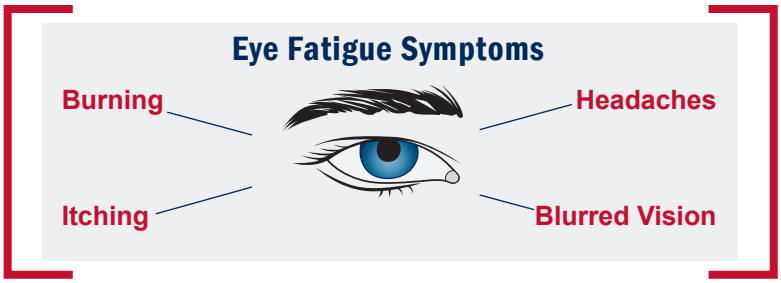
Lenses - Scratches or cracks.
Power Switch & Gain Control - No definite stopping point. Switch is broken or missing.
Eyepiece/Diopter - Binding, not moving freely, or "dot" on housing rim spins when adjusting lens.
Objective Lens - Binding, not moving freely. Dents that prevent full field of vision or the ability to focus. Cracked or loose.
Viewed image - Flickering, flashing, edge glow, or shading is observed. If the NVD image looks dim or foggy, even after cleaning and focus adjustment, use a TS-4348/UV Test Set to determine whether the NVD meets resolution requirements.

NVD Fatigue Is Real

Marines can experience eye fatigue when utilizing NVDs, especially with prolonged use. The level of fatigue experienced can be greatly accelerated if the NVDs haven't been properly focused.

When an NVD is improperly focused, your eyes will attempt to overcompensate to create a clearer image. A maladjustment can cause a range of symptoms including burning, itching, headaches, and blurred vision. This degrades your ability to concentrate and your situational awareness on the battlefield. A properly focused NVD causes minimal eye strain and provides the best visual acuity.

Marines must pay attention to their symptoms and ensure they are focusing their NVD properly!



DID YOU KNOW?

NVD displays can be permanently damaged due to "screen burn" when left on and focused on a high-intensity light source (e.g. street lights, the Moon).

Calibrating Your NVDs

Ops-Check

- Start by cleaning the lenses with canned air, a soft microfiber cloth, or lens paper.
- Test all movable parts and rings. Ensure full movement of the inner eye piece diopter and that the white dot on the rim does not move when you twist the diopter.

Components of Night Vision Devices

Zero Diopter

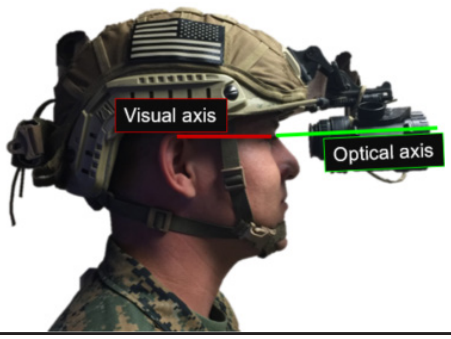
- Ensure that the distance from the eye piece diopter to your eye (i.e., eye relief) is enough to prevent blunt force trauma to the eye when wearing.
- Turn the outer objective lens counterclockwise until it stops. *If the device is jammed due to debris or dirt,* ***DO NOT ACCEPT*** *it. The device requires maintenance.*

Set the dot on the rim of the diopter to 0 (zero) to begin adjusting and focusing your NVD.

Alignment

Remember: *Turn Lights On and Device Off*

Align the visual axis of your non-dominant eye to the optical axis of the device, spaced 25mm (1 in) or a thumb's width distance from your eye using the tilt adjustment knob/lever, the fore/aft adjustment, and the vertical adjustment to ensure a complete field of view (FOV). Proper alignment centers the device in line with your visual axis and provides the optimal FOV.

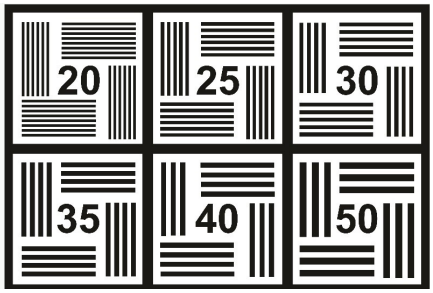


Focusing

Remember: *Turn Lights Off and Device On*

Focus your NVD using an Eye Lane Chart in a controlled environment away from most natural and artificial light (the ideal environment is in a Night Imaging and Threat Evaluation (NITE) Lab). An Eye Lane Chart allows you to focus your NVD to achieve maximum visual acuity. Being able to clearly observe the lines around the "30" on the chart indicates 20/30 vision.

Eye Lane Chart



(Not to scale)

Eye Lane Chart procedures…

- Stand 20 feet away from the eye chart.
- Have someone shine a flashlight or tactical headlamp **(white, not colored)** on the chart from approximately 10 feet to the side.
- Turn the **outer objective lens** clockwise until any of the vertical and horizontal lines on the chart are visible.
- Turn the **inner eyepiece diopter** counterclockwise until the image becomes blurry and stare into the blurred image for two to three seconds. Slowly turn the diopter clockwise **until you have a sharp focus,** then STOP.

If an eye lane chart is not available…

- Select an object with good vertical or horizontal lines that is at least 150 feet away.
- Follow the same procedures for focusing as you would using an Eye Lane Chart.

This method is not as reliable and may increase eye fatigue.

Gunners and regimental air officers should contact an Aeromedical Safety Officer (ASMO) to schedule a NITE Lab NVD training class and to order a high contrast Eye Lane Chart.

Limitations of NVDs

Understanding the limitations of NVD technology will allow you to better interpret, and more appropriately respond to, what you see using the device under various conditions. This knowledge will help the Marine make optimal use of the technology and to adjust their behavior to compensate for inherent limitations.

Field of Vision

NVDs limit your peripheral vision. Your unaided vision has an approximate 170-degree FOV, but an NVD is limited to a 40-degree FOV. To compensate for this reduced FOV, use a deliberate scan pattern and periodically look under your NVDs using your unaided vision to maintain situational awareness.

Monochromatic Imaging

NVDs do not distinguish color, only contrast and intensity; therefore, all images displayed on-screen are monochromatic. As a result, NVDs cannot distinguish between chemlight colors used by operation forces. There have been two night, live-fire mishaps in the last two years because Marines did not understand this limitation and used chemlights to mark both target and operating forces, resulting in two injuries and one permanent partial disability.

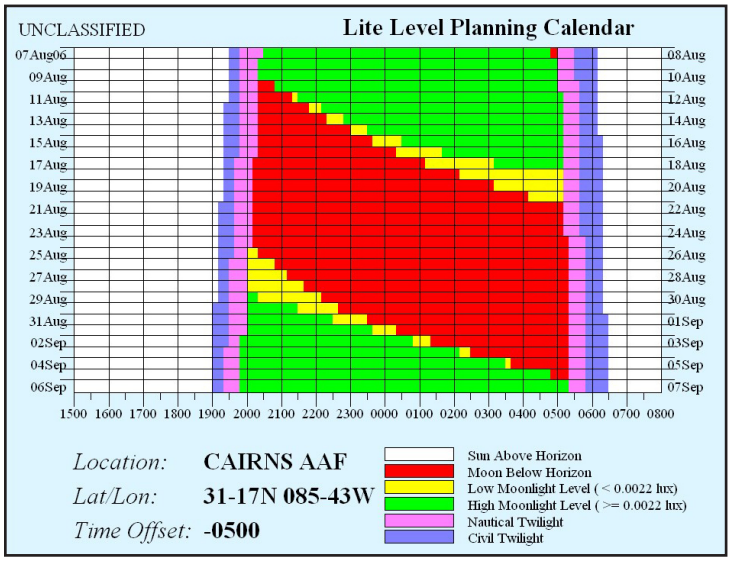
Environmental Conditions and Obscurants

There are three NVD planning factors: **illumination, contrast, and atmospheric obscuration**. These three factors determine how well — or poorly — your NVD will function and what you will and won't be able to see.

MISHAP RECAP

A **lack of depth perception** is often cited in NVD mishaps and can be heavily influenced by environmental conditions and obscurants.

During a recent training exercise, the driver of an amphibious assault vehicle (AAV-P7) failed to identify a curve in the road due to poor illumination and contrast. The AAV was driven off a 10-foot embankment and **several of the Marines in the vehicle were injured as a result.**



A Light Level Planning Calendar is used to anticipate the light conditions for long-term planning.

1 **Illumination:** NVDs function best in quarter moon (25%) illumination. Full moon illumination can sometimes wash out or degrade the NVD image, and very low illumination will cause the image to look dim and grainy. ***Note: this is NOT a maintenance issue.***

2 **Contrast:** Contrast is the degree to which you can distinguish between elements on the NVD screen. Poor contrast greatly reduces image detail. Terrain and vegetation can appear very similar on the NVD image due to low contrast. Study the environment before operations and consider how contrast and light conditions will affect NVD performance. Determine whether the limited contrast of your environment could be hiding unanticipated obstacles or enemy forces and whether an alternate route or time of transit would provide greater visual acuity.

3 **Atmospheric Obscuration:** Snow, dust, rain, smoke, and fog can interfere with NVDs. The larger the particulate, the more it will decrease your image quality and limit the distance you can clearly see. Recognize there might be threats hidden in the noise distortion caused by obscurants. When transiting, allow for longer travel time, and move slower and more cautiously with greater separation between vehicles.

SNOW DUST RAIN SMOKE FOG

School Circle

Take a knee, Marines! This section is to provide material for leaders of all ranks to use when an opportunity to go knee-to-knee with your Marines presents itself. Never waste an opportunity to communicate with your Marines. We are all susceptible to the pitfall of assuming we are doing it right. Are we fully engaged as leaders? Are we connecting with our Marines in a way that allows them to feel heard and seen? Does each Marine in our unit understand our unit's mission and their specific role in support of that mission?

The Safety Division recently assembled an Operational Planning Team to examine the role a positive culture plays in units with high readiness and combat effectiveness. It is no surprise that well-led units are consistently combat ready. The Marines in those units overwhelmingly report high rates of commitment and motivation because they understand "what" they are being directed to do and, as important, "why" they are being told to do it. Operational excellence exists on a foundation of trust, integrity, and leadership created and sustained through effective communication; the key ingredient is communication.

Are Marines in your unit committed to their role in the Corps?

Why Marines Lose Commitment	Why Marines Stay Committed
A profession of arms versus a job – Marines not treated as Marines.	Marines are connected to a larger purpose – Marines treated as Marines.
Misalignment of messaging – Poorly communicated policy and unclear orders.	Alignment of clearly communicated policy and clearly briefed missions and desired outcomes.
Leadership by email – Lack of direct engagement.	Face-to-face, directly engaged leadership.
Negative critique versus constructive criticism – Feelings of being beaten down and not valued.	Using mistakes to shape future success, with an emphasis on coaching and molding warriors.
Leaders too busy for day-to-day interactions.	Leaders create opportunities to teach, mentor, and hold Marines accountable when required.
Failure to shape expectations – Marines have a transformational experience at Boot Camp, but the work environment becomes transactional.	Shaping future leaders by involving junior Marines in planning.
Sense of purpose lost when Marines don't know the unit's mission or their role in support of it.	Sense of community and belonging. I care about my fellow Marine and never miss an opportunity to communicate that through word and deed.
Leader's failure to prioritize – Confusion and a lack of focus during execution.	Leaders take ownership of decisions and actions, especially mistakes.
No feedback provided by leadership or solicited from leadership.	Leaders creating a culture of continuous coaching.
Focus on results rather than Marines	Leaders are trusted and demonstrate trust.

Commitment to the Corps + Commitment to Marines = Combat Readiness & Effectiveness

How Phone Addiction is Impacting Your Life and Loved Ones

Technological advancements have simplified daily tasks and communication, allowing people to connect with loved ones across the world anytime. However, technology also comes with challenges and risks to health and relationships. In addition to affecting the brain's concentration and memory ability[1], personal devices like smart phones can become a distraction from the things that are most important. Recent studies and surveys show that 90 percent of Americans report overusing, misusing, or abusing their devices, while 50 percent of teens feel that they are addicted to them.[2] From checking your phone while driving, to using your device while interacting with others, you can limit addictive behaviors and form better cell habits.

90%
REPORT OVERUSING

Avoid Technology Blinders in Your Relationships

Did you know that one in four cell phone users in a relationship finds their partner too distracted by their cell phone?[3] Couples identifying technology usage as a source of conflict report higher rates of depression and overall lower life satisfaction. Overuse of technology can leave partners feeling ignored or rejected. Open communication about expectations and effects of how each partner uses their device helps minimize these negative outcomes. Make sure to spend time together without the distraction of electronics.

1 IN 4
FIND THEIR PARTNER DISTRACTED

Develop Healthy Technology Skills with Your Kids

Cell phone usage by kids and parents has been found to impact children of all ages. Small children overusing technology are less likely to explore their environments, while older children are more likely to feel overlooked when parents are constantly on their phones. The American Academy of Pediatrics recommends enforcing guidelines for screen time based on a child's age. You can also set an example and practice healthy technology habits by taking phone breaks while with your kids, creating tech-free zones in your home, and not checking your device while driving.

50%
OF TEENS FEEL ADDICTED

Reminders

- Your relationship with technology may impact your relationship with your loved ones.
- Develop your child's social skills by modelling healthy communication habits.
- Put down the cell phone, laptop, or controller, and look at your partner when you talk.
- Minimize technological distractions when you're with your kids and help them develop good technology habits.
- Your Family Advocacy Program (FAP) and Community Counseling Program (CCP) provide services to help promote healthy parenting, relationship skills, and stress management. Contact your local installation's offices for more information.

[1]**Statistic from:** https://www.health.com/anxiety/cell-phone-addiction
[2]**Statistics from:** https://www.psychalive.org/cell-phone-addiction
[3]**Statistic from:** https://www.goodtherapy.org/blog/3-ways-technology-can-negatively-impact-your-relationships-0919167