

**US MARINE CORPS  
ACTIVE DUTY  
EYE INJURY SUMMARY  
CALENDAR YEAR 2009**

Approved for public release, distribution unlimited

2013



## CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY

**INTRODUCTION:** In 2010 the Armed Forces Health Surveillance Center (AFHSC) and Tri-Service Vision Conservation and Readiness Program (TSVCRP) of the US Army Public Health Command (USAPHC) began development of an Annual Active Duty Military Eye Injury Summary that would detail cause and type of injury along with demographics of eye injuries (Age, Gender, Rank, Occupational Group).

The first edition of the summary and annual summaries back through calendar year 2000, were produced in the spring of 2011. An analysis of years 2000-2010 was published in the May 2011 Medical Surveillance Monthly Report (MSMR). The AFHSC also developed a Case Definition for Eye Injuries that details the code set and methodology used to develop the summaries. Both the MSMR Article and Case Definition for Eye Injuries are available on the AFHSC website: <http://afhsc.army.mil/home>.

This summary contains detailed data, along with a set of summary tables detailing Ambulatory and Hospitalization rates (per 1000 person-years) for Injury Group, Cause of Injury and Occupational Group. Summary tables for Deployment-Associated Eye Injuries detailing frequency of Eye Injuries by Type of Injury and Occupational Group are also provided. Occupational Group data is for Enlisted members only. Deployment-Associated Eye Injuries are presented without regard to Ambulatory or Hospitalized status.

As one of the underlying goals of the summary is to make eye injury surveillance data accessible and useable, individual annual eye injury summaries for all years and all services (Combined DoD, Army, Navy, Air Force, Marine Corps and Coast Guard) are posted on the USAPHC public website.

For questions or additional information regarding the summaries please contact the TSVCRP:

By Email: [usarmy.apg.medcom-phc.mbx.dcpm-tri-service-optometry@mail.mil](mailto:usarmy.apg.medcom-phc.mbx.dcpm-tri-service-optometry@mail.mil)

Telephone: 410-436-2714 FAX: 410-436-1325

Additional program information and educational materials can be found at: <http://dodvision.com/> and the USAPHC Public Website at: <http://phc.amedd.army.mil/Pages/default.aspx>

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**INJURY CODE GROUP DETAILS:** The following code groupings were used to develop the summary. Additional details may be found in the AFHSC Case Definition available at: <http://afhsc.army.mil/home>.

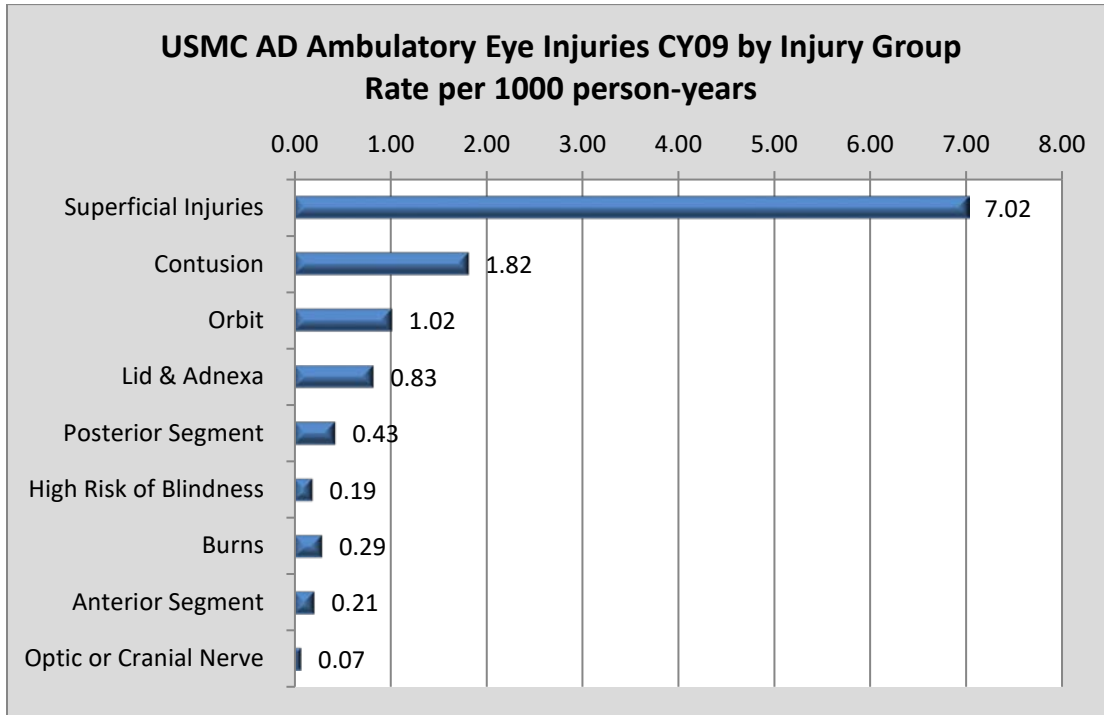
- 1) **Superficial:** all 918 series codes (superficial injury of eye and adnexa) and all 930 series codes (foreign body on external eye).
- 2) **Contusion:** all 921 series codes (contusion of eye and adnexa).
- 3) **Orbit:** All 802 series codes (fracture of face bones), 870.3 and 870.4 (penetrating wound of orbit without and with foreign body) and 376.32 (orbital hemorrhage).
- 4) **Lid/adnexa:** all 870 series codes (open wound of ocular adnexa) with the exception of 870.3 and 870.4 (see orbit above).
- 5) **Posterior segment:** 362.81 (retinal hemorrhage), all 361.0x series codes (retinal detachment with retinal defect), 363.61 (choroidal hemorrhage, unspecified), 363.63 (choroidal rupture), 379.23 (vitreous hemorrhage), 360.00 and 360.01 (purulent and acute endophthalmitis).
- 6) **High risk of blindness:** all 871 series codes (open wound of eyeball).
- 7) **Burns:** all 940 series codes (burn confined to eye and adnexa) as well as all 940.x2 codes (burns to eye with other parts of face, head and neck).
- 8) **Anterior segment:** 364.41 (hyphema), 366.21 and 366.22 (localized and total traumatic cataract), and 364.76 (iridodialysis).
- 9) **Optic/cranial nerve:** 950.0 (optic nerve injury), 950.1 (injury to optic chiasm), 950.9 (injury to optic nerve and pathways, unspecified), 951.0 (injury to oculomotor nerve), 951.1 (injury to trochlear nerve) and 951.3 (injury to abducens nerve).

**DETAILS FOR TOTAL NUMBERS:** Because patients may have been coded with more than one injury group or cause of injury, the sum of cases by injury group and the sum of cases by causes of injury will be greater than the total number of patients.

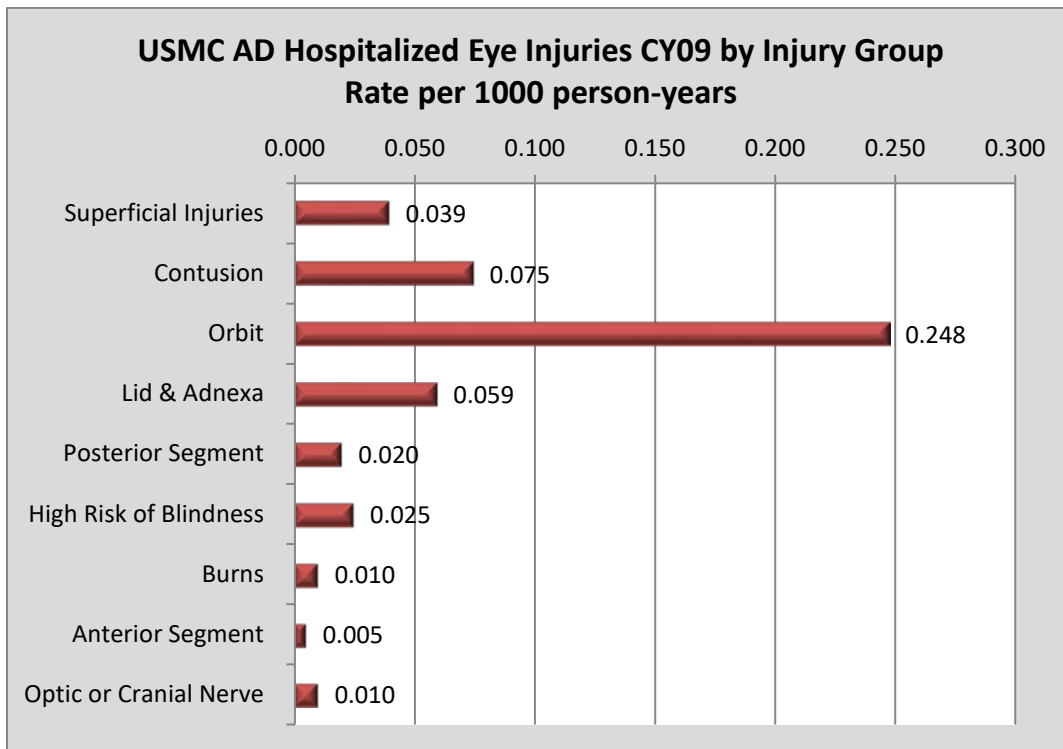
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# CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY



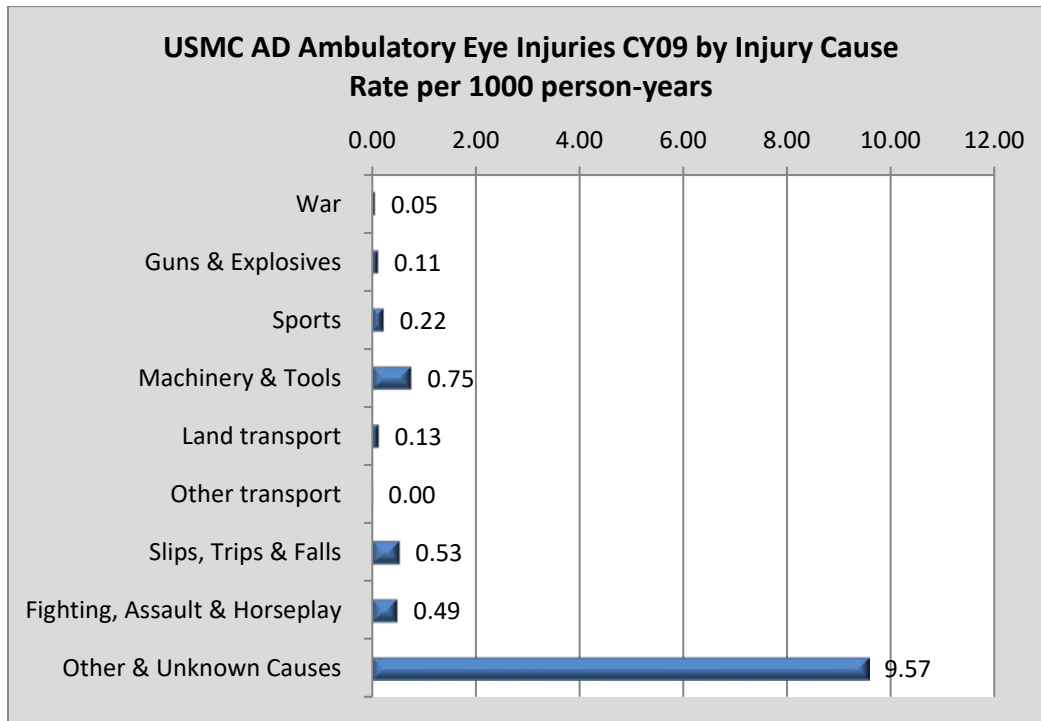
Please note the difference in scale between Ambulatory and Hospitalized graphs



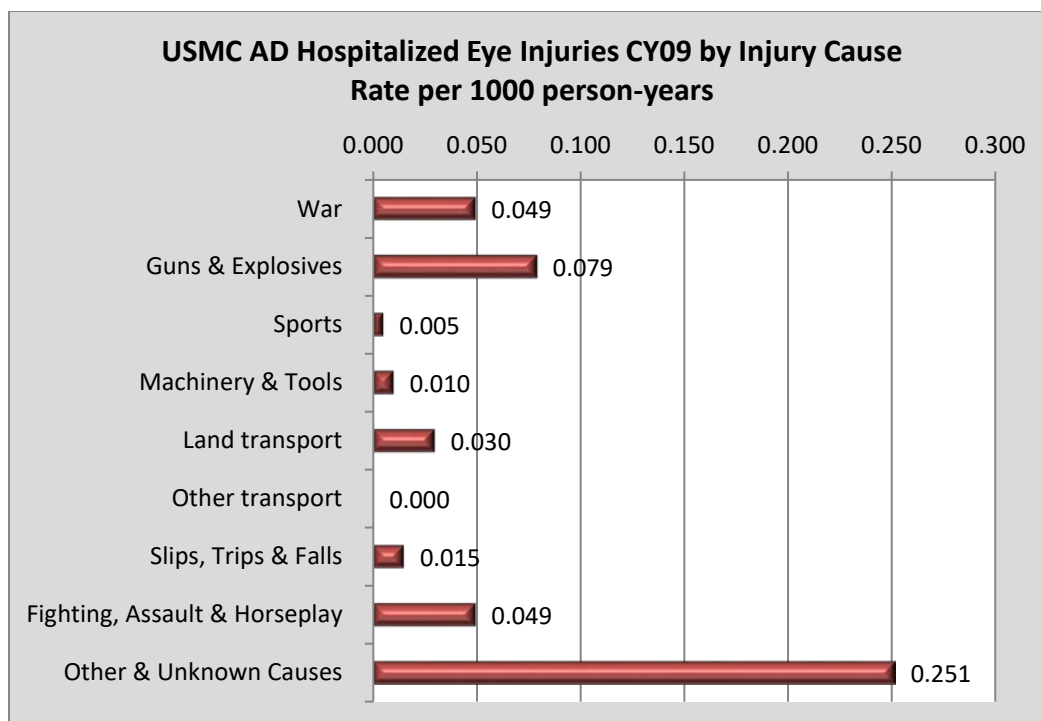
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## CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY



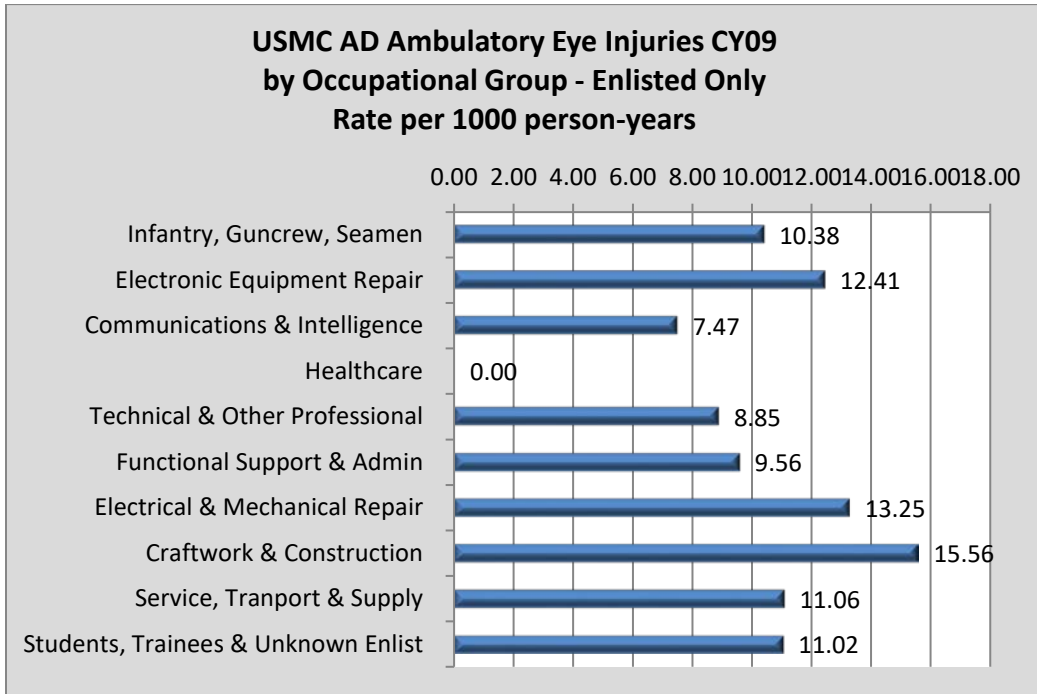
Please note the difference in scale between Ambulatory and Hospitalized graphs



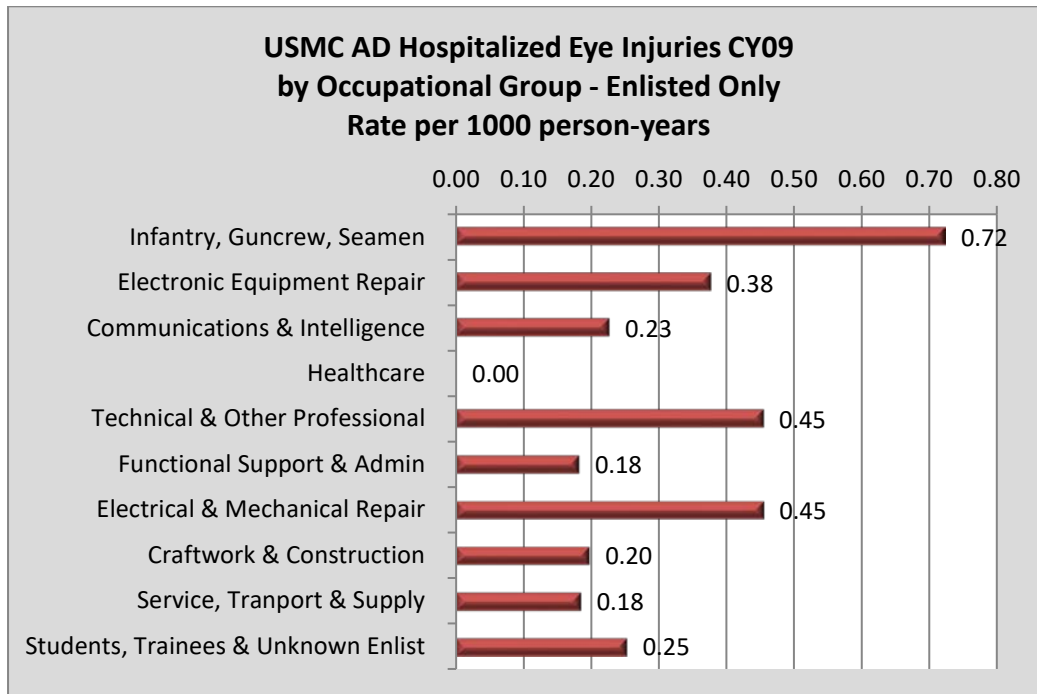
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# CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY



Please note the difference in scale between Ambulatory and Hospitalized graphs

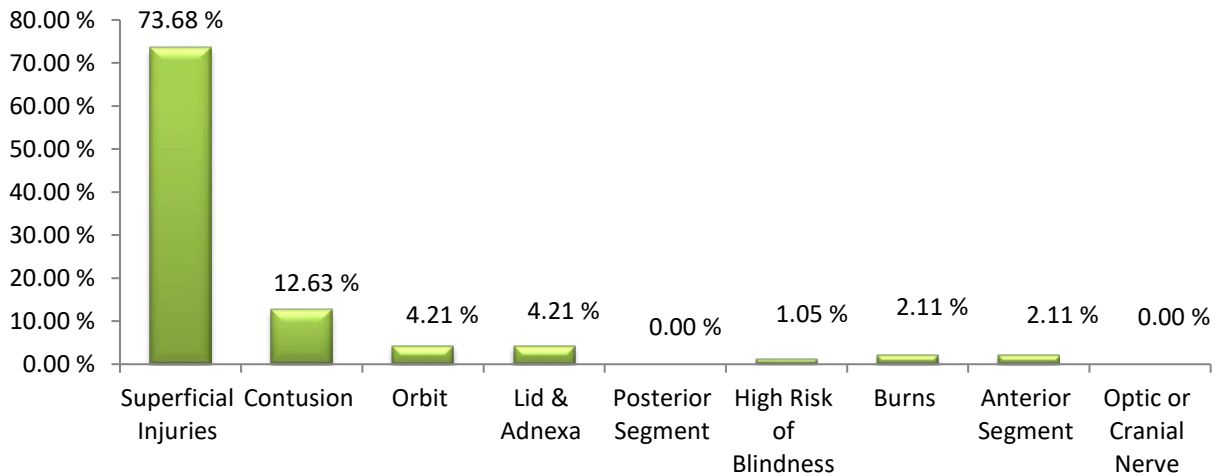


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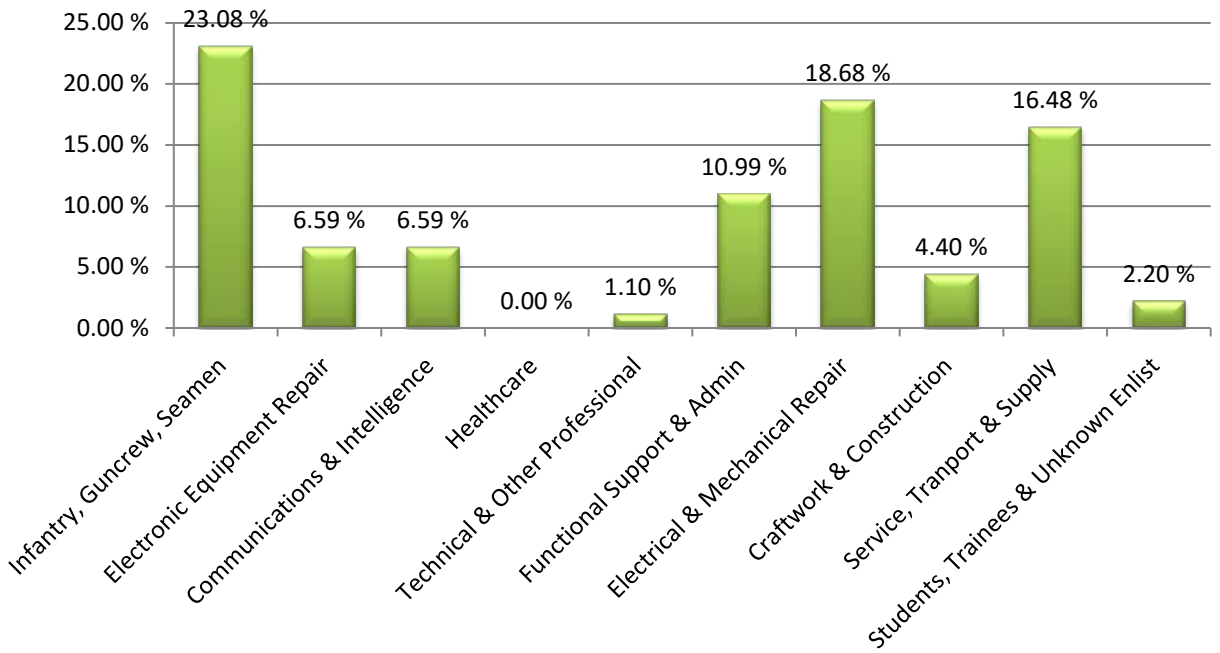


**CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY**

**USMC AD Deployment Associated Eye Injuries CY09  
by Injury Group  
Percent of Total**



**USMC AD Deployment Associated Eye Injuries CY09  
by Occupational Group- Enlisted Only  
Percent of Total**



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# CY 2009 US MARINE CORPS ACTIVE DUTY (AD) EYE INJURY SUMMARY

|  | 2009                  |                   |               |              |                                  |                      |               |                      |                  |             |               |             |
|--|-----------------------|-------------------|---------------|--------------|----------------------------------|----------------------|---------------|----------------------|------------------|-------------|---------------|-------------|
|  | Ambulatory MTF Visits |                   |               |              | Deployment-Associated Healthcare |                      |               |                      | Hospitalizations |             |               |             |
|  | Primary               |                   | All Diagnoses |              | Primary                          |                      | All Diagnoses |                      | Primary          |             | All Diagnoses |             |
|  | Count                 | Rate <sup>1</sup> | Count         | Rate         | Count                            | % total <sup>3</sup> | Count         | % total <sup>3</sup> | Count            | Rate        | Count         | Rate        |
| <b>ALL ACTIVE COMPONENT</b>              |                       |                   |               |              |                                  |                      |               |                      |                  |             |               |             |
| <b>Total</b>                             | <b>1,783</b>          | <b>8.79</b>       | <b>2,151</b>  | <b>10.61</b> | <b>80</b>                        | <b>100.00</b>        | <b>91</b>     | <b>100.00</b>        | <b>12</b>        | <b>0.06</b> | <b>76</b>     | <b>0.37</b> |
| Superficial Injuries                     | 1,267                 | 6.25              | 1,424         | 7.02         | 61                               | 72.62                | 70            | 73.68                | 0                | 0.00        | 8             | 0.04        |
| Contusion                                | 279                   | 1.39              | 366           | 1.82         | 11                               | 13.10                | 12            | 12.63                | 2                | 0.01        | 15            | 0.07        |
| Orbit                                    | 130                   | 0.64              | 206           | 1.02         | 3                                | 3.57                 | 4             | 4.21                 | 9                | 0.04        | 50            | 0.25        |
| Lid & Adnexa                             | 126                   | 0.62              | 167           | 0.83         | 4                                | 4.76                 | 4             | 4.21                 | 1                | 0.00        | 12            | 0.06        |
| Posterior Segment                        | 53                    | 0.26              | 87            | 0.43         | 0                                | 0.00                 | 0             | 0.00                 | 3                | 0.01        | 4             | 0.02        |
| High Risk of Blindness                   | 33                    | 0.16              | 39            | 0.19         | 1                                | 1.19                 | 1             | 1.05                 | 3                | 0.01        | 5             | 0.02        |
| Burns                                    | 54                    | 0.27              | 59            | 0.29         | 2                                | 2.38                 | 2             | 2.11                 | 0                | 0.00        | 2             | 0.01        |
| Anterior Segment                         | 33                    | 0.16              | 43            | 0.21         | 2                                | 2.38                 | 2             | 2.11                 | 1                | 0.00        | 1             | 0.00        |
| Optic or Cranial Nerve                   | 8                     | 0.04              | 15            | 0.07         | 0                                | 0.00                 | 0             | 0.00                 | 1                | 0.00        | 2             | 0.01        |
| Male                                     | 1,640                 | 8.63              | 1,983         | 10.43        | 71                               | 88.75                | 80            | 87.91                | 12               | 0.06        | 74            | 0.39        |
| Female                                   | 143                   | 11.24             | 168           | 13.21        | 9                                | 11.25                | 11            | 12.09                | 0                | 0.00        | 2             | 0.16        |
| War                                      | 7                     | 0.03              | 11            | 0.05         | not assessed <sup>2</sup>        |                      |               |                      | 3                | 0.01        | 10            | 0.05        |
| Guns & Explosives                        | 21                    | 0.10              | 23            | 0.11         |                                  |                      |               |                      | 7                | 0.03        | 16            | 0.08        |
| Sports                                   | 38                    | 0.19              | 45            | 0.22         |                                  |                      |               |                      | 1                | 0.00        | 1             | 0.00        |
| Machinery & Tools                        | 145                   | 0.72              | 153           | 0.75         |                                  |                      |               |                      | 2                | 0.01        | 2             | 0.01        |
| Land transport                           | 15                    | 0.07              | 26            | 0.13         |                                  |                      |               |                      | 0                | 0.00        | 6             | 0.03        |
| Other transport                          | 1                     | 0.00              | 1             | 0.00         |                                  |                      |               |                      | 0                | 0.00        | 0             | 0.00        |
| Slips, Trips & Falls                     | 93                    | 0.46              | 107           | 0.53         |                                  |                      |               |                      | 2                | 0.01        | 3             | 0.01        |
| Fighting, Assault & Horseplay            | 67                    | 0.33              | 99            | 0.49         |                                  |                      |               |                      | 0                | 0.00        | 10            | 0.05        |
| Other & Unknown Causes                   | 1,596                 | 7.87              | 1,941         | 9.57         |                                  |                      |               |                      | 5                | 0.02        | 51            | 0.25        |
| <b>ENLISTED (all diagnoses combined)</b> |                       |                   |               |              |                                  |                      |               |                      |                  |             |               |             |
| <b>Enlisted</b>                          | <b>1,642</b>          | <b>9.02</b>       | <b>1,981</b>  | <b>10.89</b> | <b>73</b>                        | <b>91.25</b>         | <b>82</b>     | <b>90.11</b>         | <b>11</b>        | <b>0.06</b> | <b>72</b>     | <b>0.40</b> |
| <20                                      | 248                   | 7.30              | 296           | 8.72         | 3                                | 3.75                 | 3             | 3.30                 | 1                | 0.03        | 11            | 0.32        |
| 20-24                                    | 851                   | 9.13              | 1,052         | 11.29        | 48                               | 60.00                | 54            | 59.34                | 5                | 0.05        | 47            | 0.50        |
| 25-29                                    | 329                   | 10.90             | 391           | 12.96        | 11                               | 13.75                | 12            | 13.19                | 3                | 0.10        | 8             | 0.27        |
| 30-34                                    | 104                   | 7.84              | 120           | 9.04         | 5                                | 6.25                 | 7             | 7.69                 | 1                | 0.08        | 1             | 0.08        |
| 35-39                                    | 81                    | 10.24             | 85            | 10.74        | 4                                | 5.00                 | 4             | 4.40                 | 1                | 0.13        | 4             | 0.51        |
| >=40                                     | 29                    | 8.36              | 37            | 10.66        | 2                                | 2.50                 | 2             | 2.20                 | 0                | 0.00        | 1             | 0.29        |
| E0-E4                                    | 1,097                 | 9.02              | 1,367         | 11.23        | 49                               | 61.25                | 54            | 59.34                | 6                | 0.05        | 53            | 0.44        |
| E5-E9                                    | 545                   | 9.04              | 614           | 10.18        | 24                               | 30.00                | 28            | 30.77                | 5                | 0.08        | 19            | 0.32        |
| Infantry, Guncrew, Seamen                | 380                   | 8.08              | 488           | 10.38        | 19                               | 23.75                | 21            | 23.08                | 7                | 0.15        | 34            | 0.72        |
| Electronic Equipment Repair              | 119                   | 11.19             | 132           | 12.41        | 5                                | 6.25                 | 6             | 6.59                 | 0                | 0.00        | 4             | 0.38        |
| Communications & Intelligence            | 83                    | 6.26              | 99            | 7.47         | 6                                | 7.50                 | 6             | 6.59                 | 0                | 0.00        | 3             | 0.23        |
| Healthcare                               | -                     | -                 | -             | -            | 0                                | 0.00                 | 0             | 0.00                 | -                | -           | -             | -           |
| Technical & Other Professional           | 35                    | 7.94              | 39            | 8.85         | 1                                | 1.25                 | 1             | 1.10                 | 0                | 0.00        | 2             | 0.45        |
| Functional Support & Admin               | 220                   | 7.99              | 263           | 9.56         | 8                                | 10.00                | 10            | 10.99                | 0                | 0.00        | 5             | 0.18        |
| Electrical & Mechanical Repair           | 321                   | 11.22             | 379           | 13.25        | 15                               | 18.75                | 17            | 18.68                | 3                | 0.10        | 13            | 0.45        |
| Craftwork & Construction                 | 65                    | 12.80             | 79            | 15.56        | 4                                | 5.00                 | 4             | 4.40                 | 0                | 0.00        | 1             | 0.20        |
| Service, Transport & Supply              | 198                   | 9.12              | 240           | 11.06        | 13                               | 16.25                | 15            | 16.48                | 0                | 0.00        | 4             | 0.18        |
| Students, Trainees & Unknown Enlist      | 221                   | 9.30              | 262           | 11.02        | 2                                | 2.50                 | 2             | 2.20                 | 1                | 0.04        | 6             | 0.25        |
| <b>OFFICER (all diagnoses combined)</b>  |                       |                   |               |              |                                  |                      |               |                      |                  |             |               |             |
| <b>Officer</b>                           | <b>141</b>            | <b>6.78</b>       | <b>170</b>    | <b>8.17</b>  | <b>7</b>                         | <b>8.75</b>          | <b>9</b>      | <b>9.89</b>          | <b>1</b>         | <b>0.05</b> | <b>4</b>      | <b>0.19</b> |
| <20                                      | 0                     | 0.00              | 0             | 0.00         | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 0             | 0.00        |
| 20-24                                    | 35                    | 12.13             | 37            | 12.82        | 1                                | 1.25                 | 1             | 1.10                 | 0                | 0.00        | 0             | 0.00        |
| 25-29                                    | 33                    | 5.99              | 41            | 7.45         | 1                                | 1.25                 | 1             | 1.10                 | 0                | 0.00        | 1             | 0.18        |
| 30-34                                    | 28                    | 6.45              | 32            | 7.37         | 2                                | 2.50                 | 2             | 2.20                 | 0                | 0.00        | 2             | 0.46        |
| 35-39                                    | 22                    | 4.84              | 30            | 6.60         | 0                                | 0.00                 | 1             | 1.10                 | 0                | 0.00        | 0             | 0.00        |
| >=40                                     | 23                    | 6.52              | 30            | 8.51         | 3                                | 3.75                 | 4             | 4.40                 | 1                | 0.28        | 1             | 0.28        |
| O0-O3,W0-W3                              | 109                   | 7.78              | 126           | 9.00         | 4                                | 5.00                 | 4             | 4.40                 | 1                | 0.07        | 3             | 0.21        |
| O4-O10,W4-W5                             | 32                    | 4.71              | 44            | 6.47         | 3                                | 3.75                 | 5             | 5.49                 | 0                | 0.00        | 1             | 0.15        |
| General/Flag Ofc & Executives            | 5                     | 6.99              | 8             | 11.18        | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 0             | 0.00        |
| Tactical Operations Off.                 | 45                    | 5.05              | 53            | 5.95         | 3                                | 3.75                 | 4             | 4.40                 | 1                | 0.11        | 3             | 0.34        |
| Intelligence Off.                        | 3                     | 2.45              | 5             | 4.08         | 0                                | 0.00                 | 1             | 1.10                 | 0                | 0.00        | 0             | 0.00        |
| Engineering & Maintenance Off.           | 14                    | 6.23              | 18            | 8.01         | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 1             | 0.44        |
| Healthcare Off.                          | -                     | -                 | -             | -            | 0                                | 0.00                 | 0             | 0.00                 | -                | -           | -             | -           |
| Scientists & Professional Off.           | 1                     | 2.20              | 2             | 4.40         | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 0             | 0.00        |
| Administrative Off.                      | 7                     | 4.59              | 11            | 7.21         | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 0             | 0.00        |
| Supply & Logistics Off.                  | 15                    | 5.65              | 18            | 6.78         | 4                                | 5.00                 | 4             | 4.40                 | 0                | 0.00        | 0             | 0.00        |
| Students, Trainees & Unknown Off.        | 51                    | 16.61             | 55            | 17.91        | 0                                | 0.00                 | 0             | 0.00                 | 0                | 0.00        | 0             | 0.00        |

1. Rates are per 1,000 person-years.

2. Use of ICD-9-CM E-codes for "cause of injury" is largely incomplete for theater healthcare records and therefore omitted.

3. Person-time is not available for deployers so the proportion of the total number of diagnoses is shown.

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