Reappraising the Use of Systemic Immunomodulators for Psoriasis and Eczema in the Military

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ABSTRACT

Introduction: Psoriasis and atopic dermatitis are chronic, immune-mediated skin disorders that are disqualifying for entrance into the military. Both conditions can cause difficulty wearing body armor and other protective equipment when poorly controlled, limiting a service member’s ability to train and deploy worldwide. In addition, these conditions may be exacerbated by military service because of increased exposure to austere environments, extreme temperatures, stress, skin injury, bug bites, and vaccinations. Service members have limited treatment options because of restrictions on systemic medications that can be used while deployed. Newer systemic medications—in particular, biologics and oral immunomodulators—have evolved to be both extremely effective and safe. We review more recent treatment options for psoriasis and atopic dermatitis in the context of DoD’s regulations guiding entry and retention of personnel with psoriasis and eczema and make recommendations regarding updating DoD policy for systemic treatment options.

Materials and Methods: A literature search was performed using PubMed, Embase, and Ovid with the last search done in the fall of 2023 from all years to date. These articles were further screened based on inclusion and exclusion criteria. In total, 25 articles were included in this review. An Internet search was also performed on the DoD’s regulations guiding entry and retention of personnel with psoriasis and eczema. In addition, we examined medical requirements for deployment to the U.S. Central Command and U.S. European Command.

Results: Currently, U.S. Central Command and U.S. European Command do not allow the use of medications with special storage and handling requirements on deployments. Newer biologics are safe and efficacious but require refrigeration, although other immunomodulators like deucravacitinib and apremilast are oral pills and do not have cold-storage requirements. However, the use of biologics in austere environments may be feasible because of increased intervals between dosing and the ability to store refrigerated medical supplies in most deployed environments. For military service members with psoriasis, risankizumab and deucravacitinib are excellent options given their favorable safety and efficacy profiles. Of the biologics available for atopic dermatitis, dupilumab is the safest and effective systemic medication available. The Janus kinase inhibitors have also demonstrated excellent efficacy in treating atopic dermatitis, but more safety data are needed because of potential adverse events to include heart-related events, blood clots, and cancers.

Conclusions: Systemic treatments have evolved to become highly specific for both eczema and psoriasis. These newer biologics and immunomodulators may be compatible with use in the deployed setting, especially those that have long dosing intervals and proven efficacy and safety. Of the biologics, dupilumab and risankizumab offer the best efficacy, safety, and dosing intervals for atopic dermatitis and psoriasis, respectively. Deucravacitinib is a recently FDA-approved oral immunomodulator for psoriasis that has an excellent safety profile and efficacy. Allowing the use of these medications on deployments will enable more people with moderate to severe psoriasis and eczema to join and remain in the military while receiving effective treatment.

INTRODUCTION

The military is a tightly regulated service with specific criteria and restrictions for entry and retention. Atopic dermatitis (eczema) and psoriasis are chronic dermatologic diseases that are disqualifying for entrance into the military without a waiver (DoDI 6130.03 Vol 1.) DoD accession guidelines disqualify any candidate with a history of eczema requiring any treatment other than over the counter corticosteroid cream or...
moisturizer in the previous 36 months. The guidelines also restrict any person with a history of psoriasis (excluding non-recurrent guttate psoriasis) from joining. For members whose psoriasis progresses to psoriatic arthritis, there are additional guidelines that prohibit joining or being retained in the military (DoD Instructions 6103.03 Volumes 1 and 2). Retention guidelines are applicable for those who develop adult onset eczema or psoriasis after joining the military and are less restrictive than guidelines for entry into service. Based on the severity of disease, service members with either psoriasis or eczema may be deemed non-deployable if they cannot properly wear the required gear or perform required tasks without causing their disease to flare (Table I). If members need to manage their disease with an immunomodulator or biologic, they will undergo a medical evaluation board to evaluate their fitness for duty.

Atopic dermatitis (eczema) is a chronic inflammatory dermatological disease that causes pruritic red, dry, and flaky patches of skin. It is an autoimmune condition that may be exacerbated by environmental irritants, allergens, and stress, leading to a dysfunctional skin barrier that is prone to infection. Eczema is the most common type of dermatitis, with a prevalence of about 2 to 10% in adults. The prevalence of eczema has also risen in the pediatric population. Approximately 6% of children and adolescents have eczema, an increase of 1% over the past 10 years. Additionally, the lifetime prevalence of eczema has increased by about 3% in adolescents and 4% in children. This may significantly affect future recruiting efforts.

Psoriasis is an immune-mediated dermatologic condition that causes dry, thickened plaques with varying degrees of pruritus and irritation over the extensor surfaces of the bodies. These plaques are of concern for military members because they can be exacerbated by injury (Koebner phenomenon) or from other environmental factors such as stress, heat, or bug bites. Furthermore, 22 to 27% of skin-limited psoriasis cases progress to psoriatic arthritis which can affect a member’s joints and their mobility. There are a variety of clinical presentations of psoriatic arthritis but the most common is the asymmetric oligoarticular type, which predominantly affects the distal phalangeal joints and wrists.

Both eczema and psoriasis pose a risk to a service member’s ability to deploy worldwide or train because of difficulty wearing body armor and other protective equipment when poorly controlled. In poorly controlled eczema, the skin lesions also have an increased risk to develop secondary infections. Over the past several years, there has been an expansion of effective systemic medications for treatment of moderate to severe psoriasis and eczema refractory to topical treatments. Currently, treatment options such as biologics and immunomodulators are considered the gold standard for moderate to severe eczema and psoriasis.

Biologics are targeted immunosuppressants that act on specific interleukins (IL) and cytokines in the inflammatory pathway to suppress pathogenic responses in eczema and psoriasis. Biologics are administered through subcutaneous injection and require refrigeration. Oral immunomodulators suppress dysregulated cellular signaling implicated in the pathogenesis of eczema and psoriasis. In this article, we will discuss some of these newer treatments for eczema and psoriasis. We will also address the military implications of using these medications in our active duty population and highlight the most advantageous medications available with these considerations in mind.

### METHODS

A literature search was performed using PubMed, Embase, and Ovid with the last search done in the fall of 2023 from all years to date. Search terms included: “psoriasis,” “atopic dermatitis,” “eczema,” “prevalence,” “safety,” “efficacy,” “adverse events,” “systemic immunomodulators,” “biologics,” and “malignancy.” Search terms for specific medications included: “dupilumab,” “adalimumab,” “risankizumab,” “deucravacitinib,” “apremilast,” “abrocinib,” “upadacitinib,” and “tralokinumab.” When filtered to only include clinical trials, randomized controlled trials, and meta-analysis, there were 282 articles for psoriasis and 203 articles for eczema. These articles were further screened based on inclusion and exclusion criteria. Inclusion criteria for papers critically appraised included studies comparing new treatments to old treatments for atopic dermatitis and psoriasis, and papers discussing adverse events, safety, and efficacy.
of the multiple medications of interest. Exclusion criteria were papers reviewing the treatments of interest but not for treatment specifically for atopic dermatitis or psoriasis. In total, 29 articles were included in this review. An Internet search was also performed on the DoD’s regulations guiding entry and retention of personnel with psoriasis and eczema. In addition, we examined medical requirements for deployment to the U.S. Central Command (CENTCOM) and U.S. European Command (EUCOM). CENTCOM and EUCOM were the combatant commands with the most published guidance and the guidelines that were focused on.

RESULTS
Guidelines that govern the accession, retention, and treatment of individuals with moderate to severe eczema and psoriasis are noted in Table I. Of the 11 combatant commands, Central Command—which covers the Middle East—has the most stringent guidelines on use of biologics and medications with storage requirements.

Systemic Medications
We reviewed medications available to treat eczema and psoriasis. We focused our results section on the most effective and safe biologics and immunomodulators when compared to traditional or conventional medications previously used to treat these conditions.

Eczema
Traditional immunosuppressants used to treat eczema include oral corticosteroids, or steroid-sparing agents such as methotrexate, cyclosporine, mycophenolate mofetil, and azathioprine. These medications cause significant immunosuppression with a side effect profile that includes an increased risk of serious infection and, for some, an increased risk of malignancy. Over the years, research has focused on developing effective treatments for eczema, resulting in the emergence of more targeted biologic therapies.

Biologic Treatments for Eczema
Targeted therapies for eczema (Table II) include dupilumab, an injectable human monoclonal antibody with dual inhibition of IL-4 and IL-13 used to treat eczema.\(^7\) Dupilumab’s targeted inhibition of specific cytokines reduces the inflammatory signals implicated in eczema’s pathology.\(^7\) Dupilumab has emerged as a highly effective and safe treatment option for eczema and was the first biologic approved to treat moderate to severe eczema. In studies, dupilumab has demonstrated superior efficacy in reducing Eczema Area and Severity Index, or EASI, which measures the extent and severity of eczema. In one clinical trial, dupilumab proved to have a higher efficacy compared to conventional immunosuppressants such as methotrexate with half the participants achieving an improvement of 75% (EASI of 75) after 52 weeks of

<table>
<thead>
<tr>
<th>Systemic medication</th>
<th>Mechanism</th>
<th>Maintenance dose</th>
<th>Efficacy (*EASI)</th>
<th>Safety and side effects</th>
<th>FDA approval</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dupilumab</td>
<td>Inhibits IL-4, 13</td>
<td>Inject every 2-4 weeks: 75% at 4 weeks; 55% at 12 weeks; 61% at 16 weeks</td>
<td>No risk of infection, Conjunctivitis (6.6%; self-limited)</td>
<td>33-46 (room temperature for up to 14 days)</td>
<td>2017</td>
<td>Can be dosed every 4 or 8 weeks with 10% and 25% reduction in efficacy compared to standard 7 week dosing. Can be dosed every 4 weeks.</td>
</tr>
<tr>
<td>Tralokinumab</td>
<td>Inhibits IL-13</td>
<td>Inject every 2-4 weeks: 75% at 2 weeks; 30% at 16 weeks; 40% at 24 weeks; 44% at 48 weeks; 71% at 12 weeks; 11% at 16 weeks</td>
<td>Eye pain, conjunctivitis, injection site, irritation, conjunctivitis (6.6%; self-limited)</td>
<td>77 (room temperature for up to 14 days)</td>
<td>2021</td>
<td>2022</td>
</tr>
<tr>
<td>Abrocitinib</td>
<td>JAK 1 inhibitor</td>
<td>By mouth every day: 44% at 2 weeks; 70% at 16 weeks</td>
<td>Black Box Warning—see notes</td>
<td>59-86</td>
<td>2022</td>
<td>Recent warning of heart-related events, cancer, blood clots, and death with JAK inhibitors.</td>
</tr>
<tr>
<td>Upadacitinib</td>
<td>JAK 1 inhibitor</td>
<td>By mouth every day: 43.7% at 2 weeks; 70% at 16 weeks</td>
<td>Black Box Warning—see notes</td>
<td>36-77</td>
<td>2022</td>
<td>Recent warning of heart-related events, cancer, blood clots, and death with JAK inhibitors.</td>
</tr>
</tbody>
</table>
use. In a placebo-controlled clinical trial with 2,932 participants, infection rates were similar compared to the control group; serious and severe infections were even reduced in the group taking dupilumab relative to placebo.\(^8\) In another trial, dupilumab showed a low risk (0.6%) of bacterial infections.\(^9\)

Furthermore, dupilumab can improve overall quality of life, reducing itchiness, and decreasing the need for topical corticosteroids. Patients treated with dupilumab report improved sleep patterns, reduced skin inflammation, and enhanced overall wellbeing. Another notable advantage of dupilumab is its safety profile. Although some adverse effects have been reported including conjunctivitis and injection site reactions, they are generally mild to moderate in severity. In one clinical trial, patients treated with dupilumab had a higher incidence of mild to moderate conjunctivitis than those treated with the placebo. Most resolved during the treatment period with conventional therapy; discontinuation of the medication because of conjunctivitis was rare. Dupilumab use has also been associated with a mild eczematous rash on the face and neck in about 4 to 10% of patients. Although, this is not a reason to discontinue dupilumab in most cases and seeking other causes for the rash, such as a contact dermatitis, is encouraged.\(^10\)

A newer biologic for the treatment of moderate-to-severe atopic dermatitis is tralokinumab, a monoclonal antibody targeting \(\text{IL-13}\). Although there are no direct trials comparing tralokinumab and dupilumab, both medications have demonstrated efficacy in treating moderate to severe eczema. A comparison of meta-analysis studies suggests that dupilumab is more efficacious and has less reported adverse effects (Table II).

Abrocitinib and upadacitinib are second-generation Janus kinase (JAK) inhibitors, the newest class of medications in the treatment of eczema.\(^11\) The Heads Up trial evaluated upadacitinib’s performance compared to dupilumab’s performance over a 24-week period. At 16 weeks, 71% of patients receiving upadacitinib achieved EASI 75 compared to 61% of dupilumab treated patients.\(^12\) Although these JAK inhibitors are more effective than dupilumab and taken orally without refrigeration requirements, JAK inhibitors have a black-box warning because of concerns for heart-related events, cancer, blood clots, and fatalities (Table II).

Abrocitinib and upadacitinib are second-generation JAK inhibitors, the newest class of medications in the treatment of eczema.\(^13\) The Heads Up trial evaluated upadacitinib’s performance compared to dupilumab’s performance over a 24-week period. At 16 weeks, 71% of patients receiving upadacitinib achieved EASI 75 compared to 61% of dupilumab treated patients.\(^14\) Although these JAK inhibitors are more effective than dupilumab and taken orally without refrigeration requirements, JAK inhibitors have a black-box warning because of concerns for heart-related events, cancer, blood clots, and fatalities (Table II below).

### Psoriasis

Currently, the Uniformed Services medical insurance for active duty is Tricare. Tricare’s preferred biologic for the treatment of psoriasis is adalimumab, a tumor necrosis factor alpha inhibitor. However, the medication armamentarium available to treat psoriasis has evolved rapidly since the introduction of adalimumab in 2008 and includes safer and more efficacious options (Table III). The IL-17 inhibitors, including brodalumab, ixekizumab, and secukinumab, were the next-generation of biologics following adalimumab, and have significantly greater efficacy. IL-23 inhibitors, including risankizumab, are the newest biologics available for the treatment of psoriasis.

### Biologics for Treatment of Psoriasis

Risankizumab is a humanized IgG1 monoclonal antibody that selectively binds to the p19 subunit of the pro-inflammatory cytokine, \(\text{IL-23}\), and inhibits its interaction with the IL-23 receptor. Ustekinumab is a more established biologic that works similarly to risankizumab but also inhibits the IL-12 receptor. In a meta-analysis comparing treatment options for plaque psoriasis, risankizumab was found to be the most effective treatment for plaque psoriasis, performing better than either adalimumab or ustekinumab in both the short and long term with an excellent safety profile. While on risankizumab, 72 to 79% of patients achieved a PASI 90 from weeks 10 to 60, respectively. Comparatively, a PASI 90 was achieved in only 44 to 46% of patients on adalimumab and 44 to 52% of patients on ustekinumab. Risankizumab also demonstrated better safety data than adalimumab.\(^15\) A meta-analysis comparing risankizumab and ustekinumab demonstrated a much lower risk of serious infections compared to adalimumab.\(^8\)

Adverse events for risankizumab were comparable to ustekinumab and placebo, with upper respiratory infections (URIs) and tinea infections being the most common.\(^16\) Because of the favorable safety data of risankizumab and ustekinumab, lab monitoring and annual TB testing are not indicated for patients on these medications. Additionally, risankizumab and ustekinumab’s dosing schedules are the longest of all the biologics at 12-week intervals. Risankizumab’s effects last significantly longer than its dosing intervals. A retrospective study that assessed patients’ responses to risankizumab after variable time intervals of missed doses during the COVID-19 pandemic found that it took 36 weeks before there was a loss of PASI 100, and 42 weeks before the loss of PASI 90.\(^17\)

### Oral Immunomodulators for Treatment of Psoriasis

There have also been recent advancements in oral immunomodulators used to treat psoriasis. Apremilast is a small molecule biologic that inhibits an enzyme, phosphodiesterase 4, that promotes the production of pro-inflammatory cytokines. The advantages of this medication include oral administration and
### TABLE III. Select Biologics and Immunomodulators for Psoriasis

<table>
<thead>
<tr>
<th>Systemic medication</th>
<th>Mechanism</th>
<th>Maintenance dose</th>
<th>Efficacy (*PASI 90) 10-16 44-60 weeks (%)</th>
<th>Safety and side effects</th>
<th>Storage temperature (°F)</th>
<th>FDA approval</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deucravacitinib</td>
<td>Inhibits Tyrosine Kinase 2</td>
<td>By mouth daily</td>
<td>36</td>
<td>44</td>
<td>59-86</td>
<td>September 2022</td>
<td>Excellent efficacy and safety; outperformed apremilast in both safety and efficacy.</td>
</tr>
<tr>
<td>Apremilast</td>
<td>Inhibits phosphodiesterase 4</td>
<td>By mouth daily</td>
<td>12</td>
<td>16</td>
<td>Below 86</td>
<td>2014</td>
<td>No special handling. Not a biologic nor a systemic immunosuppressant.</td>
</tr>
<tr>
<td>Risankizumab</td>
<td>Inhibits IL-23</td>
<td>Inject every 12 weeks</td>
<td>72</td>
<td>79</td>
<td>36-46</td>
<td>2019</td>
<td>Excellent efficacy and safety data.</td>
</tr>
<tr>
<td>Tildrakizumab</td>
<td>Inhibits IL-23</td>
<td>Inject every 12 weeks</td>
<td>37-39</td>
<td>Data not available</td>
<td>36-46</td>
<td>2018</td>
<td>Highest rate of serious adverse events.</td>
</tr>
<tr>
<td>Guselkumab</td>
<td>Inhibits IL-23</td>
<td>Inject every 8 weeks</td>
<td>67</td>
<td>77</td>
<td>36-46</td>
<td>2017</td>
<td>Highest rate of serious adverse events.</td>
</tr>
<tr>
<td>Brodalumab</td>
<td>Inhibits IL-17</td>
<td>Inject every 2 weeks</td>
<td>71</td>
<td>74</td>
<td>36-46</td>
<td>2017</td>
<td>Need to monitor for mucocutaneous candidiasis; suicidal ideation detected but no causal relationship between drug and SI revealed.</td>
</tr>
<tr>
<td>Ixekizumab</td>
<td>Inhibits IL-17</td>
<td>Inject every 2 weeks</td>
<td>71</td>
<td>74</td>
<td>36-46</td>
<td>2016</td>
<td>Highest rate of adverse events compared to placebo; highest rate of discontinuation because of adverse events during short term treatment. Better medication tolerance when dosed every 2 weeks than 4 weeks- greater sAE risk and discontinuation when dosed every 4 weeks.</td>
</tr>
<tr>
<td>Secukinumab</td>
<td>Inhibits IL-17</td>
<td>Inject every 4 weeks</td>
<td>61</td>
<td>71</td>
<td>36-46</td>
<td>2015</td>
<td>Long-standing safety record.</td>
</tr>
<tr>
<td>Ustekinumab</td>
<td>Inhibits IL-12, 23 IL-17</td>
<td>Inject every 12 weeks</td>
<td>44</td>
<td>52</td>
<td>36-46</td>
<td>2009</td>
<td>Tricare preferred systemic medication for psoriasis.</td>
</tr>
<tr>
<td>Adalimumab</td>
<td>Inhibits Tumor necrosis factor alpha</td>
<td>Inject every 2 weeks</td>
<td>44</td>
<td>46</td>
<td>36-46</td>
<td>2008</td>
<td>Tricare preferred systemic medication for psoriasis.</td>
</tr>
</tbody>
</table>
Psoriasis and Eczema in the Military

Reduced need for lab monitoring. Unfortunately, it is not very effective. In a meta-analysis comparing the current systemic psoriasis medications available, apremilast was the least efficacious. Apremilast achieved a PASI 90 12 and 16% of the time during short and long-term assessments. The most common side effects (≥ 5% of patients on Apremilast) related to apremilast in both UNVEIL and LIBERATE studies were diarrhea (28%), nausea (19%), headache (15%), nasopharyngitis (11%), and upper respiratory tract infection (7%).

Some clinical trials have shown patients treated with apremilast have reported psychiatric issues, although this has been refuted in a large retrospective study.

Another oral immunomodulator, deucravacitinib, was FDA approved in September 2022 for the treatment of psoriasis. Deucravacitinib selectively inhibits Tyrosine Kinase 2 receptors, blocking signaling mediated via the cytokine IL-23. Like apremilast, it is a pill and does not require refrigeration. However, it is significantly more effective than apremilast. In the 52-week POETYK PSO-1 study, deucravacitinib achieved a PASI 75 in 59% of patients at week 16 compared to 35% of patients on apremilast and placebo, respectively. At week 24, a PASI 75 was achieved in 69.3% of patients on deucravacitinib compared to 38.1% on apremilast.

**DISCUSSION**

Uncontrolled eczema or psoriasis can limit a service member’s ability to train and deploy to austere environments where limited medical resources are available to treat their condition. Treatment options for service members include corticosteroids, moisturizers, systemic immunosuppressants, and biologic response modifiers. However, if a service member is prescribed an immunosuppressant, biologic, or immunomodulator, they are non-deployable based on current DoD guidelines. A non-deployable status is career ending for many service members because most occupations require service members to be deployable worldwide. If service members are non-deployable, they may be forced to either leave the military or switch career track within the military, often to a less desirable position.

Traditional systemic immunosuppressants for psoriasis and eczema have varying degrees of effectiveness. They are not very specific to these skin disorders and cause significant immunosuppression, with a high risk of end-organ damage and are not allowed during deployments. Although being more effective and safer than traditional systemic immunosuppressants, biologics are also not allowed during deployments because of their potential immunosuppressive effects, storage requirements, and frequent dosing requirements.

Our review demonstrates that newer biologics and immunomodulators do not cause significant immunosuppression and have evolved to be extremely effective. Our military also has capabilities to keep refrigerated medications in more austere environments. For instance, the Armed Forces have been able to successfully maintain vaccination status of deployed troops despite refrigeration requirements. Vaccine potency is dependent on storage capabilities and most require refrigeration at temperatures between 36 and 45°F, similar to storage requirements for biologics. These established cold supply chains can be considered for delivery of biologics into the theater of operations. In addition, there is often a grace period for medications to be utilized once taken out of refrigeration. After removal from the refrigerator, prefilled syringes of dupilumab can be safely kept for up to 14 days at temperatures of 77°F or below, and dosing schedules for ustekinumab, risankizumab, and dupilumab can be extended without significant loss of efficacy.

Currently, adalimumab and apremilast are the first-line DoD medications used to treat moderate to severe plaque psoriasis. Yet, risankizumab and deucravacitinib have the best indications for the treatment in military members. In a meta-analysis comparing all of the biologics used to treat moderate to severe plaque psoriasis, risankizumab proved to be the most effective in both the short and long term. It has a 12-week dosing interval with the ability to maintain control of disease up to 36 weeks if a dose cannot be administered. Service member deployments can range anywhere from 6 to 24 months, so a long-interval dosing schedule is more advantageous. Decravacitinib requires a trial of or contraindication to adalimumab for initiation in the DoD. For service members, deucravacitinib should be made a first-line oral option as it is safer and significantly more effective than either adalimumab or apremilast. We recommend deucravacitinib, as a first-line oral option, be permitted for active duty service members on deployment.

For treatment of atopic dermatitis topical steroids and apremilast are the first line DoD medications. Although the current generation of JAK inhibitors mentioned in this article have significantly less hematopoietic and vascular effects than the first-generation JAK inhibitors that generated the black box safety warning, more safety data are needed to further assess its safety profile. As well as acknowledge the limitation regarding the cost implications associated with JAK inhibitors for eczema, which may pose a barrier to accessibility and implementation in certain healthcare settings.

Dupilumab should be the preferred systemic medication over the JAK inhibitors and tralokinumab given its safety profile and effectiveness. We recommend dupilumab be a permitted systemic medication for active duty service members, both in the garrison setting and deployment.

**Recommendations**

We advocate for the utilization of biologics and immunomodulators characterized by outstanding efficacy, extended dosing intervals, and well-established safety profiles, within deployed environments for the treatment of eczema and psoriasis. To optimize healthcare delivery in austere military environments, it is time to consider follow-up trials assessing the logistical feasibility, efficacy, safety, and cost-effectiveness of recommended medications such as dupilumab for eczema and risankizumab or deucravacitinib for psoriasis within these
TABLE IV. Recommendations for Service Members With Eczema or Psoriasis

<table>
<thead>
<tr>
<th>Condition</th>
<th>Medication Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eczema</td>
<td>Dupilumab</td>
</tr>
</tbody>
</table>
|           | • We recommend dupilumab be a permitted systemic medication for active duty service members with eczema, both in the garrison setting and on deployment.  
|           | • Offers a convenient subcutaneous injection route of administration, facilitating ease of use for deployed service members with eczema.  
|           | • Remarkable efficacy in treating moderate to severe eczema ensures effective management of the condition, even in challenging deployment environments.  
|           | • The dosing regimen of Dupilumab is an injection every two weeks, but could be spaced out further if needed during deployment.  
|           | • Dupilumab has demonstrated a favorable safety profile in clinical trials, minimizing the risk of adverse events and ensuring the well-being of deployed service members receiving treatment for eczema. |
| Psoriasis | Risankizumab (injectable) or Deucravacitinib (oral) |
|           | • We recommend Risankizumab and Deucravacitinib be permitted as systemic medication options for active duty service members with psoriasis, both in the garrison setting and on deployment.  
|           | • Both offer convenient administration routes suitable for deployed service members and demonstrate exceptional efficacy in treating psoriasis ensuring effective management of dermatological issues in challenging environments.  
|           | • The long dosing intervals associated with Risankizumab and Deucravacitinib reduce the need for frequent medication refills and administration, facilitating continuity of care during deployment.  
|           | • Risankizumab and Deucravacitinib have robust safety profiles, minimizing the risk of adverse events and ensuring the well-being of deployed service members. |

CONCLUSIONS
The advent of systemic treatments that are targeted and highly effective at treating eczema and psoriasis affords the military an opportunity to reconsider accession and retention standards. We recommend that select systemic biologics and immunomodulators with excellent efficacy and safety profiles be allowed for treatment of eczema and psoriasis even in the deployed environment. This will enable more people who want to join the military to serve and allow current service members with eczema and psoriasis to receive more effective care.

ACKNOWLEDGMENTS
None declared.

CLINICAL TRIAL REGISTRATION
Not applicable.

INSTITUTIONAL REVIEW BOARD (HUMAN SUBJECTS)
Not applicable.

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)
Not applicable.

REFERENCES