



# EVALUATING VETERANS WITH ENVIRONMENTAL EXPOSURE CONCERNS: *THE BASICS*

## A RESOURCE FOR HEALTH CARE PROVIDERS

Many Veterans are concerned about deployment related exposures and may attribute their symptoms to various environmental exposures. Providers have a difficult and challenging task when faced with properly addressing these concerns during a medical visit. This fact sheet gives you the provider tips on the basic steps for assessing the relationship between exposures and health outcomes. It also offers tips as to how to effectively communicate the information to your patients and help address their concerns

### WHY COMMUNICATION IS AN IMPORTANT PART OF AN EXPOSURE ASSESSMENT

During exposure consults, Veteran concerns may be high, and their trust that the VA will address their concerns may be low. Practicing effective risk communication between the Veteran and the provider is an important part of assessing exposure concerns and having a successful encounter. Risk communication is in part defined as “an interactive process of exchange of information and opinions” regarding the exposure or risk. Establishing this two-way pattern of communication involves taking the Veteran’s concerns seriously by acknowledging them and setting aside time to address their questions and concerns.

Veterans may come to you having “researched” their exposure concerns having gotten their information from a variety of other sources. These include word of mouth from other Veterans or service members, media reports, and additional sources that on face value may not appear scientifically sound. There may also just be many unknowns they are trying to address and clear cut answers may simply not exist. All of these things will influence their perceptions. As part of the environmental exposure assessment, it is the providers’ job to acknowledge the Veteran’s concerns and perceptions and understand why they have them as opposed to simply offering “facts” or refuting their concerns. Once a clearer understanding of these perceptions is obtained, the discussion can then focus on the scientific information that may support or refute a particular health concern.

In reality, there is often limited data that exists on what exactly a military member may have been exposed to or what levels of exposure occurred. Additionally, much of the information regarding military exposures is extrapolated from studies on non-military populations. With this said, there is a great deal that we know about how environmental exposures may affect health. There also is a great deal we are trying to better understand. Communicate about this openly with the Veteran to ensure understanding and build trust.

For more information on how to communicate exposure information see side bar titled, “*Principles of Risk Communication Applied to Veteran Exposure Assessment Process*” on the next page.

### ABCs OF EXPOSURE ASSESSMENT

To help establish a two-way dialogue and set expectations, it is important that providers first explain how the environmental exposure assessment will be conducted and acknowledge that the Veteran will be involved in the plan of care. In conducting your exposure assessment, keep in mind that the most important criteria in determining an association between an environmental exposure and a health condition is that the exposure *must have happened before the symptoms of the disease*. The level and duration of exposure are also important to determine. Individuals who have histories with high levels of exposure or lower levels of exposures sustained over periods of time may be at greater risk for long term health issues. This is also known as the *dose-response concept*. A dose-response relationship describes how





★ Principles of Risk Communication Applied to Veteran Exposure Assessment Process

- **LISTEN:** Risk communication is two-way
  - Understanding knowledge, prior beliefs is key
  - Address risk perceptions in communicating
- **RECOGNIZING EMPATHY** and trust are extremely important
  - Convey caring before information/science
- **EXPLAIN CONCEPTS** of exposure, dose/response, timing of exposure and effect, biological plausibility, etc.
  - Explain how exposure is determined
  - Assist with knowledge gap (belief that any level of exposure may cause harm)
- **DESCRIBE UNCERTAINTIES** but bound it
  - What is being done to address uncertainty?
- **NOT HAVING THE ANSWER IS OKAY!** You don't have to but...
  - Be sure to follow up
  - Point out where else can they get information/ who else can help; discuss concept of watchful waiting
- **AVOID NEGATIVE RESPONSES**
  - "I agree with you but I can't say that..."
  - "We don't have any information to suggest that."
  - "You wouldn't feel so badly if you would just lose weight and stop smoking."
  - No one can tell you why you have this disease... or we don't know whether there is a relationship or not

★ **REMEMBER RISK PERCEPTION IS NOT MIS-PERCEPTION...** addressing perception is key to communicating about environmental exposures.

the likelihood and severity of adverse health effects (the responses) are related to the amount and condition of exposure to an agent (the dose provided). Typically, as the total or cumulative dose increases, the measured response (health effects) also increases.

In addition to getting information on the exposure(s) of concern, taking an exposure-health history in a chronological manner to include both military and non-military exposures is important to do. There are several potential sources that may be useful including:

- Department of Defense (DoD) Post Deployment Health Assessment (PDHA) or Reassessment (PDHRA)
- DoD Records available through Vista Imaging
- Medical record
- Veteran interview
- U.S. Public Health Command (POEMS) data

Important questions to ask a Veteran regarding their potential exposure(s):

- **WHAT** were you exposed to? What precautions were taken? Did you have symptoms at the time and if so, what and was any care sought?
- **HOW** were you exposed? (This helps determine the route of exposure, i.e., dermal, ingestion, inhalation or injection)
- **HOW LONG** was the exposure?
- **WHERE** were you when you were exposed? (i.e., inside vs. outside)
- **WHEN** were you exposed?
- **WHO** else may have been affected?
- Inquire about family history, medical history, social history habits, or civilian occupational factors that may be relevant as well as how concerned the Veteran is about exposures discussed.

Veterans may have been exposed to more than one environmental exposure (or a mixture of harmful toxins) and come to you with questions. It is important to evaluate these Veterans on a case by case basis. Acknowledge that sometimes Veterans may encounter a variety of unknown





exposures during their deployment and that in some instances, the totality of these exposures on health may not be fully understood at this time.

As stated previously, most Veteran occupational/ environmental exposure assessments are performed retrospectively or rely on proxy cohorts. As a result, Veteran environmental exposure assessments often rely on the Veteran’s subjective history only. While a Veteran may come to you hoping to be “tested” for their exposures, often there is no way to “test” for an exposure that occurred in the past.. Veterans may also be looking to have you find the “cause” of their health concerns or determine if they were caused by exposures. In some instances, there is a relationship between certain types of exposures and specific health effects. For example, exposures to petrochemical solvents may cause blood, kidney and or liver dysfunction, and irritant inhalational exposures may predispose to respiratory conditions. (See side bar titled, *“Health Conditions associated with Common Military and Deployment Exposures of Concern.”*) In many instances, it is difficult to link a Veteran’s exposure concern(s) with a specific health condition. Instead, the focus should be on managing and treating the symptoms and trying to improve a Veteran’s overall quality of life. As a provider, acknowledge that even if you are not able to definitively determine a cause for the symptoms, there are often effective treatments for the management of health symptoms.

**CREATE A CARE PLAN AFTER EXPOSURE ASSESSMENT**

After an exposure assessment is completed a doctor should be prepared to provide education based on the type of exposure a Veteran has- see right side bar titled, *“Educational Resources for Veterans on Deployment Related Health Concerns”* for educational/fact sheet resources you can use to provide this information. In some instances it may be important to emphasize that the Veteran take steps to try to minimize potential future exposures. Some other steps to follow include:

- Outlining recommendations/ symptom management for specific symptoms a Veteran experiences.

★ **Health Conditions Associated with Common Military and Deployment Exposures of Concern**

- **AGENT ORANGE/VIETNAM ERA EXPOSURES**
- **SOLVENTS**— blood disorders, neurological disease, liver, kidney
- **AIRBORNE HAZARDS**— respiratory disease, cardiovascular
- **HEAVY METALS**— kidney, blood, neurological
- **NOISE HAZARDS**— hearing loss, tinnitus, neurocognitive and mental health disorders as well as other organ dysfunctions
- **MULTIPLE EXPOSURES**— risk of autoimmune disease
- **PROPHYLACTIC HEALTH MEASURES** (i.e., antimalarial medication, vaccines)— neurocognitive/ neurological dysfunction; vaccines (anaphylactic reactions, ? autoimmune)
- **MUSCULOSKELETAL INJURIES**, degenerative arthritis
- **COMBAT STRESSORS**— PTSD, depression, anxiety, substance abuse

- Obtaining diagnostic specialty testing as clinically indicated (i.e., 24-hour Depleted Uranium Urine Test if DU is a concern/exposure, PFTs or diagnostic imaging if Airborne Hazard exposure a concern, infectious disease testing).
- Assisting Veterans to advocate for their needs. If needed, provide assistance to access VA health resources.
- Establishing a plan for ongoing follow up and surveillance purposes. Sometimes, Veterans may have pre-clinical symptoms that do not become readily diagnosable until later on. As a result, it is important to encourage ongoing follow up and care.
- Depending on the exposure concern, (e.g., Agent Orange, Airborne Hazards or Gulf War related), encouraging the Veteran to enroll in





WRIISC

**War Related Illness and Injury Study Center**  
*Post-Deployment Health Services, Patient Care Services*  
*Department of Veterans Affairs*

the Registry Program at their local VA Medical Center if they have not already done so.

- Considering a referral to the War Related Illness and Injury Study Center (WRIISC) for deployed Veterans who have complex cases in which health symptoms may be medically unexplained.

★ **Educational Resources for Veterans on Deployment Related Health Concerns include:**

- Post-Deployment Health Services, Patient Care Services  
<http://www.publichealth.va.gov/exposures/health-concerns.asp>
- WRIISC  
<http://www.WarRelatedIllness.va.gov/education/exposures/index.asp>
- Deployment Health and Family Readiness Library  
<http://deploymenthealthlibrary.fhp.osd.mil/>
- Deployment Health Clinical Center  
<http://www.pdhealth.mil/dcs/deploymentexposure.asp>

**SUMMARY**

All providers should be knowledgeable about the basic principles of deployment related environmental exposure (including creation of a care plan and recommendations). Providers also need to focus on using risk communication as a tool to improve education, information sharing, patient/provider satisfaction and foster behavior change that is most consistent with improving the health of Veterans with exposure concerns.

**ADDITIONAL REFERENCES FOR PROVIDERS**

For more information about environmental exposure assessments for Veterans, visit the following websites:

- Mobile App- Exposure Ed  
<https://mobile.va.gov/app/exposure-ed>
- Department of Veterans Affairs Environmental Exposure Pocket Card  
<http://www.publichealth.va.gov/docs/exposures/environmental-exposure-pocket-card.pdf>
- DoD's Post Deployment Health Assessment (PDHA)  
[http://www.army.mil/standto/archive\\_2014-02-14](http://www.army.mil/standto/archive_2014-02-14)
- DoD's Post Deployment Health Reassessment (PDHRA)  
<http://www.pdhealth.mil/dcs/pdhra.asp>
- U.S. Public Health Command  
<http://phc.amedd.army.mil/Pages/default.aspx> and  
<http://phc.amedd.army.mil/topics/envirohealth/hrasm/Pages/EnvironmentalHealthRiskAssessment.aspx>
- Force Health Protection  
<http://fhpr.dhhq.health.mil/home.aspx>
- Institute of Medicine  
<http://iom.edu/>

**Article**

Santos S, Helmer DA, Teichman R. (2012). Risk Communication in Deployment Related Exposure Concerns. *J Occup Environ Med*, 54(6):752-9.

<http://www.warrelatedillness.va.gov/research/articles/2012-SantosS-risk-communication-in-deployment-related-exposure-concerns.pdf>

**VA Staff that can be of assistance to Veterans/Health Care Providers with Environmental Exposure Concerns**

- WRIISC  
<http://www.WarRelatedIllness.va.gov>
- Environmental Health Coordinators  
<http://www.publichealth.va.gov/PUBLICHEALTH/exposures/coordinators.asp>
- OEF/OIF/OND Clinical Coordinators  
<http://www.oefoif.va.gov/map.asp>

