

**Clinical Protocol for the
Management of
Pneumonitis/Pneumonia in
the U.S. Central Command
Area of Responsibility**

Approved for Public Release, Distribution Unlimited

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1. Introduction

a. Background

Over two dozen cases of severe pneumonitis/pneumonia have occurred in the U.S. Central Command (CENTCOM) Area of Responsibility (AOR) since March 2003. Most have required mechanical ventilation, and two patients have died. The clinical presentation has been described as rapid onset of cough and severe dyspnea +/- fever with leukocytosis and usually no antecedent illness (prodrome). Chest radiograph (CXR) demonstrates bilateral alveolar infiltrates with or without progression to findings consistent with Acute Respiratory Disease Syndrome (ARDS). The etiology of these cases is presently unknown and is the subject of an epidemiologic consultation (EPICON) team investigation.

A number of additional, uncomplicated pneumonias have been diagnosed across the CENTCOM AOR; all of these patients have recovered. The uncomplicated pneumonias seem to fall into two distinct classes: an atypical (viral) process and a classic lobar pneumonia. The viral process is characterized by a 1–3 day history of typical upper respiratory symptoms, including malaise, fever, cough, and headache. The CXR demonstrates subtle lobar or bilateral interstitial infiltrates, and complete blood count (CBC) shows a low white blood cell (WBC) count (< 5000/microliter (μL)) and thrombocytopenia (<120K/ μL). The vast majority of such cases quickly resolve. The other class is characterized by leukocytosis, fever, cough, and typical unilateral lobar alveolar infiltrates on CXR suggestive of (but not proven to be) a bacterial pneumonia. These latter cases respond well to antibiotics and recover fairly rapidly.

b. Case Definition

For purposes of standardization, a case of pneumonitis/pneumonia must be confirmed by presence of infiltrates on CXR. The case definition for severe pneumonitis/pneumonia includes a CXR characterized by the presence of bilateral alveolar infiltrates +/- a requirement for mechanical ventilation. The remainder of this practice guideline addresses the management of patients who present with severe pneumonitis/pneumonia.

2. Approach to Patients with Severe Pneumonitis/Pneumonia

The challenge confronting most clinicians is not in detecting the presence of the disease but rather in identifying its cause. This is critical to diagnose and treat the disease but also to establish common or shared factors that indicate whether

cases are related to a common exposure. Even so, in the best of medical centers, less than one-third of all pneumonias reveal a specific pathogen after extensive investigation. Establishing standardized operating procedures in the clinical and diagnostic evaluation of pneumonitis/pneumonia is important for the control of disease for a population (military units) and the effective management of an individual patient. While empiric antibiotic therapy is usually necessary even in the absence of a specific etiology, it is vital that clinical specimens be obtained to link specific pathogens to clusters of cases, to exclude common causes of pneumonitis/pneumonia, and to identify unusual pathogens.

a. History.

A detailed history of each case of pneumonitis/pneumonia is required to document date of onset, duration of illness before seeking medical care, symptomatology, exposures (e.g., dust, chemicals, and smoke), military occupational specialty, work environment, and geographic location. The EPICON team has prepared a detailed sample questionnaire that includes a patient interview (clinical situation permitting) for each case of pneumonitis/pneumonia (uncomplicated and severe) to establish links with other cases throughout the area of operation. Ideally, a healthcare worker should administer this sample questionnaire, (i.e., interview the patient). The questionnaire also includes fields to record laboratory test results and radiologic findings. Completed data forms should be sent to the Army Institute of Public Health, Attn: MCHB-IP-D, 5158 Blackhawk Rd, Aberdeen Proving Ground, MD 21010-5403 for inclusion in the acute eosinophilic pneumonia (AEP) registry.

b. Diagnostic Work-up.

Although definitive identification of a pathogen is often elusive, it is imperative to collect clinical specimens for epidemiologic purposes, especially when the cause of a suspected outbreak is unknown. The following recommendations are based on medical and logistical assets available at Combat Support Hospitals and are designed to minimize the logistical burden to clinical staff and to facilitate the timely transfer of specimens from the clinical laboratory to Landstuhl Regional Medical Center (LRMC) and/or continental United States. **Severe cases of pneumonitis/pneumonia, or uncomplicated cases with patterns of bilateral disease on CXR, are best managed at a centralized military treatment facility with advanced laboratory services and the capability to perform bronchoscopic examinations. Due to the potential for rapid progression to respiratory failure, patients with diffuse bilateral infiltrates on CXR should**

be evacuated to LRMC immediately after the initial evaluation described below.

(1) Laboratory.

- (a) CBC with manual differential (enumerate eosinophils).
- (b) Sputum gram stain and culture (based on availability) for patients with cough characterized by productive sputum.
- (c) Throat swab for detection of Group A Streptococci (*S. pyogenes*) using rapid antigen-detection assay.
- (d) Throat swab (Dacron) for viral culture—transport at 4 degrees Celsius (°C) to LRMC within 96 hours.
- (e) Urine sample for the detection of *S. pneumoniae* and *Legionella* using rapid antigen-detection assay.
- (f) Two (2) serum separator tubes for serologic tests—transport at 4 °C with patient to LRMC

(2) Radiology. Posteroanterior/lateral (or PA/LAT) CXR documenting unilateral vs. bilateral disease, interstitial vs. alveolar pattern, and specific lobes involved.

3. Treatment and Case Management.

a. Prognostic Indicators to Predict Uncomplicated Limited Disease vs. Progression to Severe Disease.

Unfortunately, there are no good predictors to identify those patients who will progress to severe disease requiring mechanical ventilation or to distinguish between those who have bacterial versus viral infection. However, normal mental status, pulse <125 beats/minute, respiratory rate <24/minute, systolic blood pressure >90 millimeters of mercury (or mmHg), temperature >35 °C and <40 °C, and a “not-very-sick” appearance are fairly good predictors for outpatient therapy.

b. Fluid Management of Patients with Severe Pneumonitis/Pneumonia.

Many patients with severe disease have some degree of volume depletion, and adequate fluid replacement is essential. Replacement of fluids and electrolytes with normal saline or D5NS (dextrose 5% in normal saline) is recommended; the amount and rate are carefully titrated to the patient's clinical condition so as to avoid exacerbating pulmonary leakage and pulmonary edema. Healthcare providers should avoid using Lactated Ringer's Solution, especially older racemic mixtures of Ringer's lactate.

c. Strategies for Treatment of Pneumonitis/Pneumonia.

(1) Uncomplicated Pneumonitis/Pneumonia. The empiric treatment of uncomplicated pneumonia using oral antibiotics such as Azithromycin or Levofloxacin is common practice and often effective. Depending on the patient's clinical status, the physician may elect to initiate intravenous therapy followed by changeover to oral therapy when possible. It is imperative that combination broad-spectrum antibiotics be avoided in patients with uncomplicated pneumonia to prevent emergence of multi-drug resistant organisms.

(2) Severe Pneumonitis/Pneumonia.

(a) Without a definitive microbiologic diagnosis, combination antibiotic therapy administered intravenously is frequently required as empiric treatment—

3rd generation cephalosporin (ceftriaxone, cefotaxime)

AND

Respiratory tract quinolone (levofloxacin (500–750 milligrams (mg) IV daily) >> preferred over ciprofloxacin) OR Azithromycin (500 mg IV daily)

AND

Doxycycline (100 mg IV BID)

(b) Doxycycline is included because at least one patient had very high titers to *Coxiella* (causative agent of Q fever). There is no strong recommendation for the addition of imipenem to the above regimen. However, if

imipenem is used in a seriously ill patient requiring mechanical ventilation, this drug should substitute for the cephalosporin.

(3) Use of Steroids. This clinical practice guideline neither recommends nor prohibits the use of steroids for patients with severe pneumonitis/pneumonia. The use of steroids is NOT the standard of care for management of pneumonia or ARDS in the United States. However, under certain clinical conditions and depending upon the available laboratory data, the physician may elect to give steroids (in addition to broad spectrum antibiotics) to the severely ill patient who is being mechanically ventilated. This is especially appropriate in those cases where AEP has been diagnosed or there is a strong clinical suspicion that the patient has AEP.

(4) Pressure-control Ventilation. The use of such a ventilator should be done by those experienced in its use. The advantages include proper management of patients that typically require high PEEP (>10) with high peak pressures (45–50) to maintain adequate oxygenation.

(5) Evacuation from Theater. **The clinical course of patients with severe pneumonitis/pneumonia requires immediate evacuation from theater** (dependent upon the stability of the patient for transport). This is critical because: (1) most of these patients will require management in an intensive care unit for > 7 days, (2) the diagnostic work-up requires early bronchoscopy and detailed analysis of bronchoalveolar lavage (BAL) fluid, and (3) the nature of the epidemiologic investigation requires sophisticated laboratory testing and specimen-collection methods not routinely available in theater. Upon evacuation, the following items should accompany the patient to LRMC: all medical notes, laboratory results, radiographs, and other clinical records; at least two (2) serum separators of acute blood (transport on ice); the patient's uniform(s) and any other equipment the patient may have been wearing; all medications the patient may have been taking, including over-the-counter drugs and dietary supplements; all cigarettes and other tobacco products in the patient's possession; and any other personal effects that can be acquired.

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

G5AD@ CASE QUESTIONNAIRE

Patient's email address: _____ Other contact information: _____

Data Recorder _____	Date collected _____	Location _____
Data Source (check all that apply):		
<input type="checkbox"/> Patient Interview	<input type="checkbox"/> Provider interview	
<input type="checkbox"/> Medical chart review	<input type="checkbox"/> Other _____	

Note: Many of the questions ask about exposures in the 30 days prior to illness onset. Specify date of onset (dd/mm/yy): _____ / _____ / _____

I. Demographics:

- 1. Last Name: _____ First Name: _____
- 2. DOB: _____ 3. SSN: _____
- 4. Pay grade: _____ 5. MOS / Job code: _____
- 6. Unit of assignment: _____ Company _____ BN _____ BDE _____ DIV _____
- 7. Sex: M F
- 8. Race: Caucasian Black / African American
 Asian Hawaiian / Pacific Islander American Indian / Native American

Hispanic ethnicity (circle one): Y / N
- 9. Branch of Service: Army Navy Air Force Marine Corps Coast Guard
- 10. Service Component: Active Reserve (specify: _____)
- 11. Do you know when your unit is expected to redeploy from the USCENCOM AOR? (estimate date) _____

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

II. Exposures:

12. Did you use tobacco while in the USCENTCOM AOR (prior to your illness onset)?

- Yes
No -> have you ever used tobacco?
Yes (go to question 16)
No (go to question 17)

13. Did you start using tobacco (either for the first time or after quitting previously) during this deployment?

- Yes -> date started / /
No

14. Did you smoke "local brands" of cigarettes/cigars while in the USCENTCOM AOR? Yes No

Describe (brands, types, nation of origin, when & where obtained)

15. Did you smoke "U.S. made" cigarettes/cigars while in the USCENTCOM AOR? Yes No

Describe (brands, types, when & where obtained)

16. Tobacco use history (include occasional use):

- Yes No
Cigarettes -> How many packs per day: for (years/weeks/days)
Pipe -> How many bowls per day: for (years/weeks/days)
Cigars -> How many per day: for (years/weeks/days)
Did you inhale into your lungs? Yes No
Snuff / chewing tobacco -> How often per day: for (years/weeks/days)
Other:

17. Did you ever use a houka pipe while deployed in the USCENTCOM AOR?

- Yes -> describe (when, where obtained, and frequency of use)
No

18. Were any illicit drugs (including marijuana) available to you or other members of your unit while you were deployed? (include inhaled chemicals*)

- Yes -> describe
No
Don't know

*Includes "sniffing" or "snorting" fumes from containers; spraying aerosols directly into the nose or mouth; inhaling fumes from substances sprayed or deposited inside a plastic or paper bag; "huffing" from an inhalant-soaked rag stuffed in the mouth; or inhaling from balloons filled with nitrous oxide.

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

19. As part of your daily duties, did you routinely handle or have exposure to:

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	bulk quantities of petroleum, oil, and lubricants (POL)?
<input type="checkbox"/>	<input type="checkbox"/>	bulk quantities of ammunition?
<input type="checkbox"/>	<input type="checkbox"/>	solvents or other chemicals (cleaning fluids, hydraulic fluids, etc)?
<input type="checkbox"/>	<input type="checkbox"/>	hazardous materials (unexploded ordinance, regulated medical waste, etc)?

If yes to any of the above, describe (length of exposure, frequency, dates, etc): _____

20. What were your most common sleeping quarters in the 30 days prior to your illness:

- | | |
|---|--|
| <input type="checkbox"/> Tent or other mobile facility | <input type="checkbox"/> HMMWV |
| <input type="checkbox"/> Building or other fixed facility with a permanent roof | <input type="checkbox"/> Bradley Fighting Vehicle |
| <input type="checkbox"/> Vehicle _____ → | <input type="checkbox"/> Cargo Truck |
| | <input type="checkbox"/> M1 Tank |
| | <input type="checkbox"/> Armored Personnel Carrier |
| | <input type="checkbox"/> Other _____ |

21. During the 30 days prior to illness, approximately how many hours of sleep did you average each 24-hour period? _____ hrs

22. What was your primary operating site in the 30 days prior to your illness? (more than one may apply)

- Desert Agricultural Small town Large town Major city BIAP (Baghdad International Airport) Ship Other (specify: _____)

23. How often were you exposed to fine airborne sand or dust while in the USCENTCOM AOR?

- Never
 Sometimes
 Most of the time
 Always
 Don't Know

Was any form of respiratory protection worn during exposure?
 (breathing mask, cravat, tee-shirt over mouth / nose, etc)

No, never Yes Don't know

If yes, describe: _____

If yes, how frequently did you use this when exposed to sand or dust?

Sometimes Most of the time Always

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

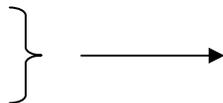
24. In the 30 days prior to your illness, what were your daily duties? **(Check all that apply and order by most frequent duty)**

- | | |
|--|--|
| <input type="checkbox"/> Checkpoint manning (crowd control, vehicular searches, etc) | <input type="checkbox"/> Health care (nurses, medics, etc) |
| <input type="checkbox"/> Local security (perimeter guard duty, etc) | <input type="checkbox"/> Supply operations (truck drivers, warehouse, etc) |
| <input type="checkbox"/> Administrative tasks (command & staff functions, personnel actions, clerks, typists, etc) | <input type="checkbox"/> Engineering (demolition, construction, etc) |
| <input type="checkbox"/> Combat maneuvers (Infantry, Armor, Cavalry, Aviation, Artillery, etc) | <input type="checkbox"/> Maintenance (vehicles, aircraft, equipment, etc) |

Describe any daily duties not listed above:

25. In the 30 days prior to your illness, how often were you in contact (e.g. shaking hands, speaking to or face-to-face contact that would allow for conversation) with the local population?

- Never
- Sometimes (a couple of times a week)
- Usually (most days of the week)
- Always (every day)
- Don't know



Describe (e.g., crowds, indoor meetings, shared quarters, intimate):

26. In the 30 days prior to your illness, did you:

	Yes	No	
a.	<input type="checkbox"/>	<input type="checkbox"/>	have contact with enemy prisoners of war (EPWs)? (if no, go to 26e)
b.	<input type="checkbox"/>	<input type="checkbox"/>	perform EPW guard duty?
c.	<input type="checkbox"/>	<input type="checkbox"/>	supervise movement of EPWs on foot?
d.	<input type="checkbox"/>	<input type="checkbox"/>	supervise movement of EPWs in vehicles?
e.	<input type="checkbox"/>	<input type="checkbox"/>	have contact with sick or ill "locals"?

If yes to any of the above, describe (length of exposure, frequency, dates, etc): _____

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

27. In the 30 days prior to your illness, did you:

	Yes	No	
a.	<input type="checkbox"/>	<input type="checkbox"/>	participate in body recovery / burial details for Coalition soldiers or Iraqis?
b.	<input type="checkbox"/>	<input type="checkbox"/>	get exposed to burning buildings / vehicles?
c.	<input type="checkbox"/>	<input type="checkbox"/>	go swimming or wading in fresh water (lakes, rivers, streams)?
d.	<input type="checkbox"/>	<input type="checkbox"/>	go swimming or wading in manmade facilities (pools, tubs, etc)?
e.	<input type="checkbox"/>	<input type="checkbox"/>	get exposed to standing / stagnant water (potholes, mud holes, marshes, swamps, etc)?
f.	<input type="checkbox"/>	<input type="checkbox"/>	dispose of human waste (burning / burying of sewage, cleaning latrines, etc)?
g.	<input type="checkbox"/>	<input type="checkbox"/>	use /apply Chemical Agent Reactive Coating paint (CARC)?
h.	<input type="checkbox"/>	<input type="checkbox"/>	perform metal work / welding / other industrial repair tasks?
i.	<input type="checkbox"/>	<input type="checkbox"/>	use / apply spray paint? Any other aerosol delivery devices (eg, body spray, compressed air, or hair spray)?
j.	<input type="checkbox"/>	<input type="checkbox"/>	get exposed to burning trash / rubbish / other waste to the point of eye irritation from the smoke?
k.	<input type="checkbox"/>	<input type="checkbox"/>	stay in air-conditioned buildings or vehicles?
l.	<input type="checkbox"/>	<input type="checkbox"/>	use smoke grenades/ pots?
m.	<input type="checkbox"/>	<input type="checkbox"/>	use crowd control grenades ("tear gas" or CS, etc)?
o.	<input type="checkbox"/>	<input type="checkbox"/>	get near or involved in any explosions (eg, IED)?
p.	<input type="checkbox"/>	<input type="checkbox"/>	exposed to sand storms?

If yes to any of the above, describe (note frequency and duration of exposures): _____

28. In the 30 days prior to your illness, were you involved with cleaning out buildings or warehouses?

- Never
- Sometimes
- Usually (most days of the week)
- Always (every day)
- Don't know



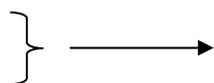
Describe:

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

29. In the 30 days prior to your illness, were you involved with convoy operations?

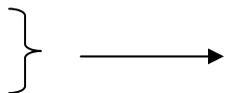
- Never
- Sometimes
- Usually (most days of the week)
- Always (everyday)
- Don't know



Describe:

30. In the 30 days prior to your illness, did you eat any local foods (include raw fruits/vegetables, slaughtered wild/domestic animals)?

- Never
- Sometimes
- Usually (most days of the week)
- Always (everyday)
- Don't know



Describe (specific foods):

31. In the 30 days prior to illness, were you involved with the spraying of pesticides / fungicides / herbicides?

- Never
- Sometimes
- Usually (most days of the week)
- Always (everyday)
- Don't know



Was any form of respiratory protection worn?

No Yes Unknown

Describe:

32. While deployed in USCENTCOM AOR, which anti-malaria pills were you given to take?

- Doxycycline (1 pill/day)
- Mefloquine (1 pill/week)
- Chloroquine (1 pill/week)
- Don't know/not sure
- None (**skip to question 34**)

33. How often did you take your pills in the 30 days prior to your becoming ill?

- Every pill
- Most pills
- Some pills
- Not at all
- Not sure/don't know

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

34. In the 30 days prior to illness, were you bitten by:

Never	Sometimes	Most of the time	Daily	Not sure/don't know	
<input type="checkbox"/>	Mosquitoes				
<input type="checkbox"/>	Ticks				
<input type="checkbox"/>	Biting flies / Sand flies				

35. In the 30 days prior to your illness, what did you do to prevent insect bites?

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	used military issue DEET ("bug juice")
<input type="checkbox"/>	<input type="checkbox"/>	used a permethrin-treated military uniform
<input type="checkbox"/>	<input type="checkbox"/>	slept under a bed net
<input type="checkbox"/>	<input type="checkbox"/>	used a civilian bug repellent product
<input type="checkbox"/>	<input type="checkbox"/>	other (e.g., flea collar)

If yes to any of the above, describe: _____

36. In the 30 days prior to illness, were you exposed to mold, moldy buildings, or musty odors (e.g., while unpacking equipment or cleaning)?

- Never
- Sometimes
- Most of time (most days of the week)
- Everyday
- Don't know

Describe:

37. In the 30 days prior to illness, did you have direct contact with any nonpotable (untreated) water for drinking / showering / laundering / bathing, etc?

- Never
- Sometimes
- Most of the time (most days of the week)
- Everyday
- Don't know

Describe:

Acute Eosinophilic Pneumonia Questionnaire

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38. While deployed in USCENTCOM AOR, did you collect any souvenirs or war trophies?

- Yes
- No
- Unknown

Describe (type, location taken, current location of item, etc):

39. While deployed in USCENTCOM AOR, do you remember being around any sick people (other soldiers / friends / civilians / etc) with symptoms similar to yours?

- Yes
- No
- Unknown

Describe:

40. In the 30 days prior to your illness, did you take any dietary supplements, vitamins, herbal remedies, or over-the-counter medications? **Specifically ask about creatine usage (e.g., XENADRINE, CELL-TECH, PROTEIN, WHEY).**

- Never
- Sometimes (up to twice weekly)
- Most of the time (most days of the week)
- Everyday
- Unknown

Describe:

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41. In the 30 days prior to illness, were you exposed to any of the following? **Indicate which of these included direct (e.g., touching) contact:**

	Yes	No		DIRECT CONTACT
a.	<input type="checkbox"/>	<input type="checkbox"/>	Mice?	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	Mice droppings?	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	Rats?	<input type="checkbox"/>
d.	<input type="checkbox"/>	<input type="checkbox"/>	Rat droppings?	<input type="checkbox"/>
e.	<input type="checkbox"/>	<input type="checkbox"/>	Birds (including pigeons, chickens and turkeys)?	<input type="checkbox"/>
f.	<input type="checkbox"/>	<input type="checkbox"/>	Bird droppings or bird feathers?	<input type="checkbox"/>
g.	<input type="checkbox"/>	<input type="checkbox"/>	Sheep or goats?	<input type="checkbox"/>
h.	<input type="checkbox"/>	<input type="checkbox"/>	Sheep or goat droppings?	<input type="checkbox"/>
i.	<input type="checkbox"/>	<input type="checkbox"/>	Cats?	<input type="checkbox"/>
j.	<input type="checkbox"/>	<input type="checkbox"/>	Cat droppings?	<input type="checkbox"/>
k.	<input type="checkbox"/>	<input type="checkbox"/>	Dogs?	<input type="checkbox"/>
l.	<input type="checkbox"/>	<input type="checkbox"/>	Dog droppings?	<input type="checkbox"/>
m.	<input type="checkbox"/>	<input type="checkbox"/>	Bats?	<input type="checkbox"/>
n.	<input type="checkbox"/>	<input type="checkbox"/>	Bat droppings?	<input type="checkbox"/>
o.	<input type="checkbox"/>	<input type="checkbox"/>	Other → describe: _____	<input type="checkbox"/>

If yes to any of the above, describe contact and quantify any exposures: _____

42. In the 30 days prior to becoming ill, were you:

	Yes	No	
a.	<input type="checkbox"/>	<input type="checkbox"/>	bitten or scratched by any animal?
b.	<input type="checkbox"/>	<input type="checkbox"/>	visit a live bird market?
c.	<input type="checkbox"/>	<input type="checkbox"/>	visit a live animal market?
d.	<input type="checkbox"/>	<input type="checkbox"/>	any contact with dead animals?

If yes to any of the above, describe contact and quantify any exposures: _____

Acute Eosinophilic Pneumonia Questionnaire

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43. Did you have any cold symptoms (cough, runny nose, congestion, etc) while deployed in USCENTCOM AOR (excluding symptoms temporally associated with the illness in question)?

- Yes
- No
- Don't know

Describe (dates, severity):

44. Other than for your pneumonia illness, did you go to sick call or other medical facilities while deployed in USCENTCOM AOR?

- Yes
- No
- Don't know

Describe any previous illnesses that occurred in theater (incl. treatments / meds & outcome):

45. In the 3 days prior to your becoming ill with pneumonia, do you think you drank more water than usual?

- Yes
- No
- Don't know

46. Please list 5 individuals (by name and rank) who worked with you during your deployment in USCENTCOM AOR (indicate who spent the most time with you in the 14 days prior to symptom onset – eg. same sleeping quarters or doing the same job duties).

1. _____
2. _____
3. _____
4. _____
5. _____

Also ask patient for names and contact information (if available) for chain of command (eg, Company Commander, Section Leader, etc.) because this will help us coordinate control interviews in theater.

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III. Deployment Timeline

47. What is your home duty station is (city / town / installation, state) and **current duty status** (e.g. full time CONUS, limited duty, convalescent leave):

[Empty rectangular box for answer to question 47]

48. Date departed home duty station: _____

49. Date arrived in USCENTCOM AOR: _____

50. Date arrived in Iraq: _____

51. Amount of time in Theater: _____ months

52. Amount of time in Iraq: _____ months

53. Location (town) where you became ill with pneumonia: _____

54. Primary location for the 2 weeks prior to becoming ill:

- Kuwait
- Southern Iraq
- Other _____
- Northern Iraq
- Baghdad

SHOW MAP AND ASK SUBJECT TO PLOT AREAS TRAVELLED WHILE IN THE USCENTCOM AOR AND GIVE DATES:

[Multiple horizontal lines for plotting travel areas and dates]

Acute Eosinophilic Pneumonia Questionnaire

Case ID # _____

IV. Past Medical History

55. List any underlying diseases that were known at the time of deployment: _____

56. Current prescription medications at the time of deployment (include dose if known): _____

57. Previous hospitalizations (include date and diagnosis if known): _____

58. Previous surgical procedures: _____

59. Do you have a history of:

	Yes	No	
a.	<input type="checkbox"/>	<input type="checkbox"/>	asthma (diagnosed by a doctor or other health professional)?
b.	<input type="checkbox"/>	<input type="checkbox"/>	seasonal allergies ("hayfever," etc)?
c.	<input type="checkbox"/>	<input type="checkbox"/>	medication allergies, e.g. penicillin (diagnosed by a doctor or other health professional)
d.	<input type="checkbox"/>	<input type="checkbox"/>	any other known allergies (e.g. to foods, animals, dust, molds, metals, chemicals)
e.	<input type="checkbox"/>	<input type="checkbox"/>	chronic sinusitis? (diagnosed by a doctor or other health professional)
f.	<input type="checkbox"/>	<input type="checkbox"/>	PT test failures?
g.	<input type="checkbox"/>	<input type="checkbox"/>	multiple (2 or more) profiles?
h.	<input type="checkbox"/>	<input type="checkbox"/>	episodes of coughing or unexplained wheezing after exertion/running?
i.	<input type="checkbox"/>	<input type="checkbox"/>	heat stress/exhaustion or heat stroke (either before or while deployed in USCENTCOM AOR)

If yes to any of the above, describe (including severity): _____

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60. Is there a history of asthma in your immediate family?

- Yes
- No
- Unknown

Describe (relative, age, current status):

61. Using a scale of 1-5, how would you rate your stress level in the 30 days prior to your illness compared to your stress level at home? (1=same as home; 5=intensely stressed)

- 1
- 2
- 3
- 4
- 5
- Don't know/not sure

62. What is your opinion of what caused you to become sick with pneumonia: _____

V. History of present illness

63. Please fill in the dates of all pertinent events:

- On _____ this individual first noticed that they were feeling ill
- On _____ this individual first sought medical attention
- On _____ this individual was admitted to a Combat Support Hospital or other field medical facility
- On _____ this individual was evacuated out of the combat theater
- On _____ this individual arrived at:
 - Landstuhl Regional Medical Center
 - US Naval Station Rota
 - Other referral facility _____