Welcome!
Our presentation will begin at 11 a.m. Pacific.

Preventing Valley Fever in Construction Workers
Occupational Health Branch

Audio Instructions
To join the audio:

1. Call: +1-240-454-0887
2. Enter the event number: 924 053 777#
3. Mute your computer audio
   - OR -

You can have WebEx call your phone by going to the phone icon, then clicking Call Me, and entering your phone number.
Preventing Valley Fever in Construction Workers

August 21, 2018

Jason Wilken, PhD
Occupational Health Branch
Center for Healthy Communities
California Department of Public Health
Overview

- Causes and symptoms of Valley fever
- How Valley fever can affect construction workers and businesses
- Ways to minimize exposure
- Valley fever information and training resources
“I started running out of breath and feeling feverish so I went to my doctor...”
How much do you know about Valley fever?
What is Valley fever?

An infection caused by inhaling spores of a fungus in the soil

Scientific name of fungus: *Coccidioides*
Illness also known as “coccidioidomycosis” or “c cocci”
How people get Valley fever

2–12” below the surface
Valley fever symptoms

- Flu-like
  - Cough, fever, muscle aches, headache
- Fatigue
- Difficulty breathing
- Rash on upper trunk, arms, or legs
- Joint pain in knees or ankles

Symptoms can last **weeks or months**
Valley fever illness

40% have symptoms

60% have NO symptoms

Symptoms begin 1–3 weeks after exposure
Severe Valley fever illness

5–10%: Pneumonia, chronic lung infection
Very severe Valley fever illness

1%: Spreads outside the lungs

Photo: CDC/ Dr. Lucille K. Georg
Who is at greatest risk for severe illness?

- Age 60 years or older
- African Americans, Filipinos
- Pregnant women
- Diabetes
- Weakened immune systems

*Anyone* exposed can develop severe disease.
Diagnosing Valley fever

Can only be diagnosed by a clinician
Lab tests (usually blood) are needed
Where is the fungus that causes Valley fever?

Centers for Disease Control and Prevention
No effective way to test for the fungus ahead of time

- Fungus has spotty distribution in soil
- No reliable soil or air testing methods
- Just a few (<10) spores can cause disease
Valley fever is increasing in CA
Possible reasons for rise in Valley fever

- Drought, climate, and environment
- Increase in population in areas where the fungus is common
- Construction and other dust-generating activities
County rates of Valley fever (2017)

- Darker color = higher rate
- Highest in the Central Valley and Central Coast

California Department of Public Health, 2018
Valley fever is an occupational disease

Workers disturbing soil in areas where Valley fever is common are at highest risk

- **Construction workers**
- Archeologists
- Wildland firefighters
- Military personnel
- Mining, quarrying, oil & gas extraction jobs
- Agricultural workers
Identifying Valley fever cases among workers

Workers, unions, employers

Occupational Health Branch

Local health departments

Doctors’ reports
Investigations of Valley fever at construction sites

Photo: San Luis Obispo County Planning Department
San Luis Obispo County, 2007
10 of 12 (83%) workers ill

Ineffective dust suppression

Equipment windows open

No respiratory protection
High toll of illness on this crew

- 10 ill workers sought care from 21 physicians
- 7 had abnormal chest X-rays (cocci pneumonia)
- 1 had disease that spread from the lungs
- Over 200 lost work-days for 10-person crew
- 2 workers on disability at least 5 months
44 workers ill

Most (27/44) did not live in areas where Valley fever was common.
Severity of disease (44 ill workers)

- Visited emergency room: 17 (39%)
- Hospitalized: 9 (20%)
- Spread outside the lungs: 2 (5%)
- Missed work: 34 (77%)
  - Range: 1 day to >1.5 years
  - Average: 22 days
# Job titles of ill workers*

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician/lineman/wireman</td>
<td>13 (31%)</td>
</tr>
<tr>
<td>Equipment operator</td>
<td>11 (26%)</td>
</tr>
<tr>
<td>Laborer</td>
<td>6 (14%)</td>
</tr>
<tr>
<td>Carpenter/ironworker/millwright/mechanic</td>
<td>5 (12%)</td>
</tr>
<tr>
<td>Manager/superintendent</td>
<td>4 (10%)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (7%)</td>
</tr>
</tbody>
</table>

*42 of the 44 patients were interviewed*
Follow-up survey of solar workers

• Found 89 more workers with Valley fever symptoms

• Risk factors for illness
  – Being in a dust cloud or storm
  – Working in a trench
  – Operating heavy equipment without enclosed cab
  – Not wearing respirator frequently

• Protective factor
  – Using water frequently
9 workers ill:
5 went to an ER
1 hospitalized
7 missed work—
  3 missed >7 months
“There was visible dust every hour of the day.”

“I’ve never seen so much dust. It was out of control.”

“There were not enough water trucks to control dust on 3,000 acres so we would start work without wetting the soil.”

Photo: First Solar, Inc.
Cal/OSHA citations for not protecting workers at solar farms

Citations for failure to:

- Address Valley fever as a hazard in the IIPP
- Control dust exposure
- Provide & ensure use of respirators
- Report hospitalized cases

NEWS RELEASE

News Release No.: 2017-108
Date: November 20, 2017

Cal/OSHA Cites Six Employers over $240,000 for Exposing Workers to Valley Fever

Bakersfield — Cal/OSHA has cited six employers $241,950 for workplace safety and health violations after reports that workers contracted Valley Fever on a solar project construction site in Monterey County.
True burden on construction workers?

- Number of cases in workers is unknown
- Most people with milder disease do not see a doctor
- Some may not tell their employer
- Valley fever often misdiagnosed
- Difficult to identify in workers travelling in from other counties or states
Preventing Valley fever illness

Photo: Morgan Zavertnik and Hoar Construction/elcosh.org
Basis for prevention recommendations

- Published studies from several decades
- Our worksite investigations
- Good industrial hygiene practice
  - Spores act like any airborne particles
  - Use proven methods to control dust
Plan ahead for Valley fever

Know if your job is in an area where the fungus is found. Top 7 counties in 2017:

- Fresno
- Kern
- Kings
- Madera
- Monterey
- San Luis Obispo
- Tulare

Address Valley fever in your **Injury and Illness Prevention Program (IIPP)**
Multi-employer jobs

General contractors should use contract specs to:

• Highlight Valley fever risk

• Clarify roles & responsibilities for Valley fever prevention

• Ensure all employees are trained and prevention measures consistently used
Minimize soil disturbance through job design

- Avoid digging if possible
- Reduce grading
- Maintain vegetation

Wiring is installed in above-ground trays instead of below-ground trenches

Photo: First Solar, Inc.
Limit dust generation and exposure

- Wet the soil before & while digging

- Cover bare soil with vegetation, tarps, etc.
- Stay upwind of digging
Protect operators with enclosed cabs

- Air conditioned with HEPA air filtration
- Windows closed & 2-way radio for communication
- Wet-clean inside cabs
Maintain effective cab pressurization and filtration

- Positive pressure
  - 0.08 to 0.25 inches water gauge

- Cab integrity
  - Tight door seals, gaskets
  - Holes sealed up

- Replace clogged filters

- Provide cooling and heating
Get employees respirator-ready
Use respirators with N95 or P100 (HEPA) filters

- Half-mask respirator with HEPA filters
- Filtering facepiece respirator
- Powered air purifying respirator (PAPR)
Respiratory protection program

- Program coordinator
- Medical clearance
- Fit testing
- Training
- Written policy on when to use respirators
  - Disturbing soil
  - Near soil-disturbing work
  - When dust is uncontrolled
Plan to take action when dust cannot be controlled

- Have rules for stopping work for excess dust or wind
- Monitor conditions
- Move indoors or into vehicles with HEPA-filtered A/C
- Don respirators quickly if conditions get worse
Valley fever prevention training

Train all
• supervisors
• employees
• subcontractors
Training content

- Valley fever awareness
- Symptoms
- Groups at greater risk of severe illness
- How to prevent exposure
- What to do if you have symptoms
Preventing "take-home" dust

Taking contamination offsite exposes workers & others

- Provide clean area to wash up (showers if possible)
- Require change of clothing
- Provide boot cleaning stations
- Wet-clean tools and equipment

Wash-up station

Photo: Kiewit Power Constructors/elcosh.org
What should workers do if they’re sick?

• Inform supervisors

• Get medical evaluation
  – Tell doctor about your work duties and if you think it might be Valley fever

• File workers’ compensation claim
What should employers do if workers become ill?

Refer sick workers to physicians familiar with Valley fever

Track illnesses on

- Employers’ Report of Occupational Injury or Illness (5020)
- OSHA 300 logs
Work-related Valley fever training and prevention resources

- Valley fever website
  www.cdph.ca.gov/workrelatedvalleynfever

- Fact sheet

- Free online continuing education course for health care providers

...and more
English and Spanish posters

**VALLEY FEVER**
Coccidioidomycosis or “coccidioidomycosis”

Do you work outdoors?
Have you had a cough, fever, or painful breathing for more than two weeks?

Report symptoms to your employer and see a doctor about Valley Fever

Valley Fever is caused by a fungus that lives in soil or dirt in some areas of California. You can get it by breathing in dust where the fungus grows.

**ANYONE** can get Valley Fever. Even healthy people.

People who work outdoors in dirty or dusty areas where the Valley Fever fungus grows may be at more risk of getting sick, especially those who do activities such as:
- Digging
- Truck driving
- Construction work
- Operating heavy machinery

If you work outdoors in such areas:
- Stay upwind of dirt disturbance
- Wet soil before digging
- Wear a respirator or
- Ask your employer about other ways to keep dust down

For more information, visit http://bit.ly/ValleyFeverWork or call the CDPH Workplace Hazard Helpline (866) 282-5516

**FIEBRE DEL VALLE**
Coccidioidomycosis or “coccidioidomycosis”

¿Trabaja al aire libre?
¿Ha tenido tos, fiebre o dolor al respirar por más de dos semanas?

Informe a su empleador sobre cualquier síntoma y consulte a su doctor sobre la Fiebre del Valle

La Fiebre del Valle es causada por un hongo que vive en el suelo o la tierra de ciertas zonas de California. Usted la puede contraer al respirar polvo donde crece el hongo.

**CUALQUIERA** puede contraer la Fiebre del Valle. Aun las personas sanas.

Las personas que trabajan al aire libre en la tierra o las zonas polvorientas donde crece el hongo de la Fiebre del Valle pueden correr mayor riesgo de infectarse, especialmente si hacen actividades como:
- Excavar
- Conducir camiones
- Trabajar en la construcción
- Operar maquinaria pesada

Si trabaja al aire libre en estas áreas:
- Manténganse alejados del viento donde se altera la tierra
- Moje la tierra antes de excavar
- Use una mascarilla (un respirador) o
- Pregunte a su empleador sobre otras formas de reducir el polvo


Departamento de Salud Pública de California
www.cdph.ca.gov
Cal/OSHA Valley fever web page has important guidance

www.dir.ca.gov/dosh/valley-fever-home.html
Speaking from experience
Glenn Bugler, President, Bugler Construction

“The most important thing is to be aware of the geographic locations it’s [Valley fever is] likely to be present. If they know this, they can protect themselves and be aware of any symptoms that may show up.”
Summary

• Valley fever can be serious and cause permanent harm

• Exposure to spores in dust and soil puts workers at risk

• Valley fever is preventable
  – Plan for Valley fever ahead of jobs in endemic areas
  – Train all supervisors, employees, and subcontractors
  – Minimize soil disturbance, dust generation, and exposure
  – Stop work to increase protection when necessary
  – Get any workers with symptoms a medical evaluation
Stay in touch with OHB

• Work-related Valley fever website
  www.cdph.ca.gov/workrelatedvalleyfever

• Workplace Hazard Helpline (866) 282-5516
  Toll-free in California

• OHB website www.cdph.ca.gov/OHB

• Sign up for monthly e-newsletter
Thank you

- Associated General Contractors of California
- Construction Employers Association
- United Contractors
- Sacramento and Shasta Regional Builders Exchanges
- California Department of Transportation
- State Building Construction & Trades Council of CA, AFL-CIO
- LIUNA - Laborers Health & Safety
- Operating Engineers Local 3
- Worksafe
- Contractors State License Board
- State Compensation Insurance Fund
- Zenith Insurance Company
- American Society of Safety Professionals – various CA chapters
- American Industrial Hygiene Association
- National Inst. of Environmental Health Sciences Worker Training Program
CDPH publications


Questions & Answers