

**HPMC** OCCUPATIONAL  
MEDICAL SERVICES

# Exposure Evaluation Process for Tank Farm Workers

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An increase in the number of tank farm vapor exposures has led to many questions and concerns among workers and management.

- During regular clinic hours, HPMC OMS is responsible for the medical evaluation of workers reporting exposure to vapors.
- At other times, workers are taken to Kadlec Hospital which has an arrangement with DOE/HPMC OMS to evaluate, treat, refer and recommend further evaluation and/or treatment.
- All evaluations are carried out by healthcare professionals following protocols and procedures found in HPMC OMS documents.
- Procedures and protocols are regularly and systematically evaluated internally as well as by external SME's, and adjustments are made in accordance with best medical practices.

## ◆ Exposure Response Team

- 1979 Snyder
- 2 West

## ◆ Established May 1, 2014

- Under development for months

## ◆ Triage

- Newly-established protocol, prioritization, area
- Chief complaints, symptoms, vital signs, pulse oximetry

## What comprises the medical evaluation of workers potentially exposed to tank farm vapors?

It is a clinical judgment based on the history of the exposure, including what is known about the chemicals involved; the initial findings by the provider: symptoms worker describes, signs noted during exam; results of laboratory and any other testing done initially or during follow-up. If there is any question or concern about the condition of the individual, (s)he is referred to his/her private healthcare provider or to an appropriate consultant.

## ◆ History

- HPI
  - Duties, job, location at time of exposure, immediate effects (symptoms), persistent or worsening effects
- Includes IH data on TVIS and, if available, on-the-spot sampling results from personal and/or area monitors
- Location, duration, protection

More information is gained from a good medical history than from any other aspect of a medical evaluation.

PMH

HPI

CC

Vital Signs

Exam

Testing

## ◆ Symptoms

- Immediate
- Delayed
- Ongoing, worsening or resolving

## ◆ Past Medical History

- Illnesses
- Medications
- Allergies
- Past exposures

## The physical examination/evaluation.

General

Skin

- Any abnormalities—redness, denuding

Lymphs

- Swollen glands?

HEENT

- Any signs of inflammation? (redness, swelling, pain on touch)

Neck

Chest

- Clear to auscultation (listen for abnormal sounds in lungs, *e.g.* wheezing)

Cor

- Check for arrhythmia

Abdomen

Neuro-psychiatric

- Recent emphasis on “mini-neuro”

Other

- ◆ Rarely are there any physical findings (“signs”) from typically transient (seconds to minutes) exposures to vapors noted by smell and/or effect on mucous membranes of eyes, nose, mouth, throat.
- ◆ Some workers have reported skin irritation

## Medical testing: blood, urine, chest x-ray, PFT's

CBC and differential

ChemPlus

- Mainly LFT's, BUN, Creatinine

Specifics:

- Urinary S-phenylmercapturic acid
- Mercury (Hg), blood
- Mercury (Hg), urine
- Prothrombin Time/INR

Blood held 45 days

Other tests (depending on various factors):

- Chest x-ray
- PFT's

Referrals:

- BHS prn

- ◆ Other than for a few specific substances—primarily heavy metals (*e.g.* Pb, Hg)—there are **NO SPECIFIC** body tissue **TESTS FOR ANY OF THE CHEMICALS** in tank farm vapors to which workers may have been exposed.
- ◆ Rigorous criteria for valid and useful tests.

## Return to work is largely dependent on self-reported symptoms,

further evaluation by HCP, and recommendations from evaluation by referral.

It is a clinical judgment based on the history of the exposure, including what is known about the chemicals involved; the initial findings by the provider: symptoms worker describes, signs noted during exam; persistence or resolution of symptoms and signs over the interceding days; type of work to which the worker would be returning; results of laboratory and any other testing done initially or during follow-up. If there is any question or concern about the condition of the individual, (s)he is referred to his/her private healthcare provider or to an appropriate consultant.

## ◆ Modifications

- Lab results
- Back-to-work process
- Exposure process info sheet
  - Worker input
  - Under development now
- [HPMC OMS web info](#)

Paperwork—documentation in the chart and provided TO the worker-patient is crucial

- Privacy Statement (HIPAA)
- Evaluation & Test Purpose and Nature—stays on chart, signed by worker
- Exposures Informational Guide—goes with worker
- Record of Visit (ROV) Q&A brochure—goes with worker