



LITIGATION SUPPORT IN TOXIC TORT MATTERS: SINGLE OR MULTI-CLAIMANT

TrialMap™ - ICTM's proprietary litigation support system, coupled with our extensive experience, enables ICTM to deliver its medical and scientific expertise in easily understood work products. Utilizing TrialMap™ ICTM creates and supports a strategic alignment with you that facilitates cost-effective case resolution. The following case study provides some of our most frequently requested types of work products, produced by TrialMap™. For this, we have used a carbon monoxide (CO) toxicity claim, but the approach is applicable to all issues – mold, benzene, pesticides and others.

CASE STUDY

A 42 year old woman alleged that exposure to carbon monoxide in her home, after work was performed on her heating system, caused her to experience a variety of adverse health effects which included headache, fatigue, weakness, mental confusion and insomnia. ICTM was asked to evaluate the claim. As part of the ICTM litigation support activities, facts contained in the complaint, depositions, and answers to interrogatories were placed into the ICTM TrialMap™ data system.

Literature Review

Literature search and review, integral components of ICTM's approach, revealed that carbon monoxide could have the capability, in the right dose and duration, to cause adverse health effects such as those claimed in this matter.

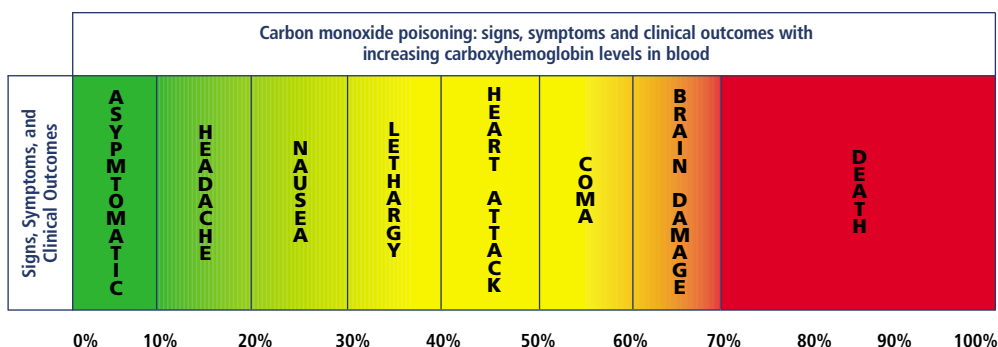
The TrialMap™ Research Authorities Report allows the user to evaluate quickly whether the relevant scientific literature is positive or negative for the case. The ICTM experts use this report as the scientific foundation for their causation analysis, case strategy development, and support for motions.

TRIALMAP™ RESEARCH AUTHORITIES REPORT

Author(s)	Title	Citation	Pub Year	ICTM Comments	Evaluation
Townsend, CL et al	Effects on health of prolonged exposure to low concentrations of carbon monoxide	Occup Environ Med 60:212-216	2002	The author's review discusses long-term effects described in case reports. These reports suggest neuropsychological effects. Biological plausibility has not been shown.	Negative for case
Benignus et al	Effect of low level carbon monoxide on compensatory tracing of event monitoring	Neurotoxicol Teratol 9:227- 234	1987	This study does not resolve the relationship between task difficulty and magnitude of CO-induced dysfunction. No statistical significance was observed.	Positive for case
Devine, SA et al	MRI and neuro-psychological correlates of CO exposure: a case report	Environ Health Perspect 110:1051-1055	2002	A case study does not prove causation. However, in this particular one, there was some improvement 29 months post exposure.	Neutral – somewhat for case
Raub, JA and Benignus	Carbon monoxide and the nervous system	Neurosci Biobehavior Reviews	2002	The authors state that there is insufficient reliable information about chronic effects of low concentrations. Further work is needed to develop reliable dose-response relationships.	Positive for the case

Signs and Symptoms

Exposure analysis was performed by ICTM scientists concerning carbon monoxide levels within the home. This was done to determine the exposure that the claimant may have experienced. Using the results from this analysis, we compared the claimant's symptoms with the scientifically-known dose response relationships for carbon monoxide exposure, as determined by percentage of carboxyhemoglobin in the blood.



Medical Records Abstract

Our nurses abstracted the medical records into TrialMap™. This permitted a focused analysis of the chronological flow of key facts, symptoms, medical encounters and diagnoses. The ICTM medical experts and the attorneys collaboratively used the medical record abstract to drill down to the key information contained within the **four volumes of medical records**.

The medical record abstract can be sorted in numerous ways to focus and highlight relevant information throughout the case evaluation process.

MEDICAL RECORDS ABSTRACT

Date & Time	Complaint / History	Tests, Procedures, Treatment	Dx, Meds	Discussion / Recommendations	Key
Thu 02/28/2002	First visit here. Doing well other than migraine headaches, present since age 15 PMHx: Hypertension, fibromyalgia, anxiety, depression SOC: 2 PPD smoker	DX: Migraine headaches; fibromyalgia PREV MEDS: Toradol, Valium, Lortab, MS Contin, Calan SR	NEW MEDS: Continue		Yes
Wed 03/20/2002	Comes to ER via private vehicle; states exposure to CO in home after HVAC work yesterday. Now headache, fatigue. SOC: 1 PPD smoker.	LAB: COHb 10.2 (0-2 normal for nonsmoker, 6-8 normal for smoker). TX: O2 at 100% NRB mask 1/2 hour.	DX: CO poisoning PREV MEDS: Calan SR, Lortab	DISC: Mildly elevated CO level, resolving SX w/ removal from source tonight; 70 pack-year HX smoker, empiric 100% O2 x 1/2 hour for symptom reduction. Felt well on discharge.	Yes
Mon 04/01/2002	First visit here. Exposed to CO in home on 03/20/02. Headache, fatigue, weakness and insomnia since exposure. FMHx: Family also exposed; similar symptoms SOC: 1/2 PPD smoker		DX: CO poisoning. PREV MEDS: Calan SR, Lortab, Valium. NEW MEDS: Continue meds; Add Fiorinal.		Yes

Symptoms and Diagnoses Before During and After Exposure

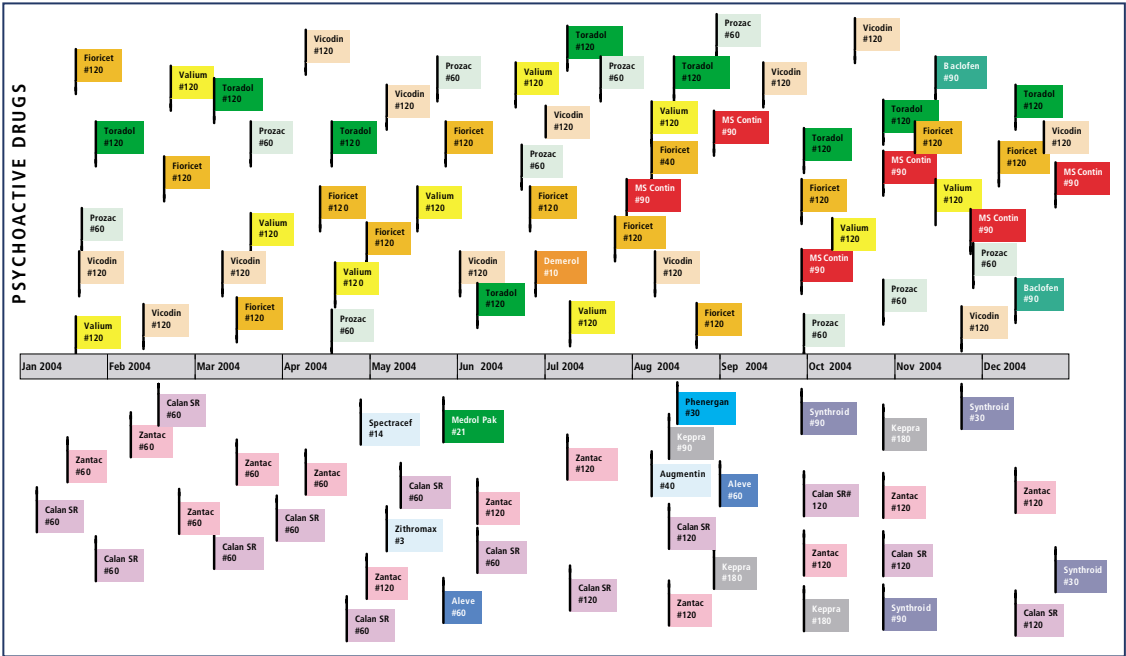
Based on the timing of the exposure and key data excerpted from the medical records abstract, a chart was prepared to depict **relevant symptoms, diseases and other important information before, during and after the alleged exposure period**. This chart is the foundation for determining temporality between exposure and claimed health effects.

Medication history from the medical record abstract revealed that numerous psychoactive medications were prescribed to the claimant that could cause symptoms similar to those that were claimed to have been related to the carbon monoxide exposure. We generated timelines of prescription drug use, segregated by psychoactive and non-psychoactive medication, and color-coded by drug, to illustrate a potential **alternate cause of the claimant's symptoms**.

BEFORE, DURING, AFTER EXPOSURE CHART

BEFORE EXPOSURE	DAY OF EXPOSURE	AFTER EXPOSURE
RESPIRATORY: Smoking: 02/28/02: 2 PPD since age 16	RESPIRATORY: Smoking: 03/20/02: 1 PPD since age 19	RESPIRATORY: Smoking: 04/01/02: 1/2 PPD since age 19; 05/01/02: 1/4 PPD since age 21; 08/20/02: 4 cigarettes per day
NEUROPSYCHIATRIC: 02/28/02: Migraines since age 16; Anxiety since age 32; Depression since age 35	NEUROPSYCHIATRIC: 03/20/02: Headaches since exposure yesterday; Anxiety; History of depression	NEUROPSYCHIATRIC: Headaches post CO exposure continue: 04/01/02, 05/01/02, 08/20/02, 12/14/02, Insomnia: 04/01/02, 04/15/02, 08/20/02; Anxiety: 04/15/02, 05/20/02, 07/30/02; Depression: 09/23/02
MEDICATIONS: 02/28/02: Toradol, Valium, Lortab, MS Contin, Calan SR	MEDICATIONS: 03/20/02: Lortab, Calan SR	MEDICATIONS: 04/01/02: Lortab, Calan SR, Valium, Fiorinal 05/01/02: Fiorinal, MS Contin, Lortab, Valium, Synthroid 06/13/02: Fiorinal, MS Contin, Lortab, Valium, Ambien, Synthroid, Prozac

PRESCRIPTION DRUG USE



Comparison Chart of Multiple Claimants

This case also involved other members of this claimant's family. A comparison chart was developed from the medical records abstract of each family member. The chart was critical in revealing similarities and dissimilarities relating to symptoms, objective medical findings and other key data. Combined with our exposure analysis, this comparative chart enabled us to reveal **inconsistencies with the expected clinical course following carbon monoxide exposure**.

FAMILY COMPARISON CHART

	FATHER	MOTHER	SON	DAUGHTER 1	DAUGHTER 2
Birth Date	08/29/1954	09/12/1957	04/03/1979	06/10/1982	03/07/1985
Past Medical History	Allergic rhinitis GERD Chronic bronchitis	Anxiety Depression Fibromyalgia Migraine headaches	Allergic rhinitis ADHD	Asthma	Migraine headaches Allergic rhinitis
Smoking	Yes	Yes	Yes	No	No
COHb level as of 03/20/02	10	10.2	6	4.5	4.8
Days missed from work/school within 1 year post exposure	0	94	23	7	10

Expert Causal Opinion

Ultimately, the analyses and work products were used by the ICTM expert physicians in forming their causal opinion. In this case, they reviewed the exposure data, medical records information and medical/scientific literature analysis that had been compiled and integrated in TrialMap™.

Following ICTM's causation methodology, the questions of CAN, DOES and DID were answered:

- CAN the agent cause the alleged symptoms? Yes.
- What DOES the claimant have wrong with her? The Claimant has migraine headaches, anxiety and depression, all documented in the medical records to predate her alleged exposure and continuing after her exposure ceased. She also has complaints of mental confusion, fatigue and insomnia that are temporally related to side effects of numerous concomitantly-taken psychoactive medications.
- DID the alleged agent cause the symptoms in this individual? In ICTM's expert opinion, the answer is No.

EXPERT CAUSAL OPINION: Based on the low level of carboxyhemoglobin in the blood, the wrong clinical course, and the medications side effects related to her excessive prescription drug use, carbon monoxide was not the causal agent of her symptoms.

ICTM's proprietary, cost-effective TrialMap™ system creates collaborative efficiency among legal counsel and ICTM medical and scientific experts. TrialMap™ enables us to:

- Organize scientific literature to evaluate strength of scientific evidence
- Organize medical records data
- Create medical encounter timelines
- Create medication / exposure timelines
- Create exposure chronologies
- Identify missing custodial records
- Prepare comparison spreadsheets showing similarities and dissimilarities in multi-claimant matters
- Create trial exhibits
- Provide scientific support for motions
- Prepare strategies for approaching opposing experts at deposition and trial.

***At ICTM, we limit your risk through sound,
provable science.***



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