



CO Alliance Meeting (Open)
Wednesday February 22, 2017
10:00 AM- Noon
Community Family Medicine Office
Meeting Minutes

Present: Deborah Johnson, Bruce Martin, Jim Esdon, Debra Samaha, Jeff Cyr, Mary MacCaffrie,
and by phone: Scott Ayers, Jonathan Stewart, Bill Degnan and Albert Donnay

Agenda:

1. Notice of upcoming grant: We are awaiting the FEMA 2017 Fire Prevention & Safety (FP&S) grant to come out. This will involve applying as a multi-institution and state effort. Deb Johnson and Dr. Olson are discussing applying out of Community Family Medicine. Discussed how best to frame proposal and we will want to include funds for CO Alarms. This initially needs to be a research study that will then develop messaging for a bi-state region. More to come.
2. Current funding opportunity from Fire Marshal's office: Mary MacCaffrie has been awarded a 2016 Firefighters Grant. It will involve both smoke and CO alarms for those in specific regions of the state that meet certain criteria. Red Cross is an important partner in this grant and Mary will be following up with Eddie Blanchard to discuss.
3. CDC call -Deb J. will be on call and will send link to Bill Irwin.
4. Updates
 - a. Red Cross: Debra S. related that Red Cross installed all 20 CO alarms that we gave them and have used new Spanish materials from CPSC. We need to work on creating a MOU with Red Cross. We are also in the process of ordering more CO alarms which will use up the balance of Dr. Norman Miller's original gift.
 - b. HOSA Student project: Students are presenting this week. Also Dartmouth competition happens later in March. Mary will attend student presentation at Rundlett Middle School in Concord. Students will also present at Bow Elementary School. CO Bracelets and magnets are backordered but will be delivered to students as soon as they arrive.
 - c. Development office: Debra S. has emailed one organization as recommended by Joe Rose, no response at this time. Dr. Olson may approach an energy company on behalf of Community Family Medicine.
 - d. Status of Technician Training: Jeff Cyr reported training was brought to Mechanical Licensing Board and is awaiting approval. This training will offer 8 hours for both Vermont and NH. Mike D. is working on video footage to be used during training. The anticipated date for training is April/May.

- e. Web site update Deb J. has launched new CO Alliance Web Site. Looking for content from members. More at next meeting. CO Summit power points may be hosted here.
- f. Follow up from Summit meeting will be sent out to all members when it is put in final format.
- g. Date for next Summit meeting will be November 7/8 as first choice. Deb J. will check with Fireside Inn to check availability.
- h. Bill Degnan related that the NH Legislature passed a bill to promote the sale of firecrackers. This bill was not supported by the NH Fire Marshal's Office.
- i. Albert Donnay's CO abstract was distributed to group. Albert recommended looking at GASSAFETYTRUST.org web site.

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Activity: Late Breaking Abstract

Current Date/Time: 1/12/2017 7:07:01 PM

Rethinking the Treatment of Carbon Monoxide Poisoning from 1800s to Present

Author Block: A. Donnay¹, H. Schneider². ¹Consultant, Hyattsville, MD, ²Johns Hopkins Pulmonary and Critical Care Medicine, Baltimore, MD,

Abstract:

Introduction: The currently recommended treatment for carbon monoxide (CO) poisoning is 100% oxygen delivered via hyperbaric chamber or at ambient pressure via non-rebreather mask at a high flow rate until either arterial or venous carboxyhemoglobin falls below a threshold presumed to be safe, usually under 3 to 5% for non-smokers and 5 to 10% for smokers. While three Cochrane Reviews since 2000 have compared the relative effectiveness of hyperbaric and normobaric oxygen in preventing delayed neurological sequelae (DNS), none compared these methods with older CO treatments used before the 1970s or treatments developed since.

Method: We review the history of CO poisoning treatments promoted since the 1800s. These have changed significantly: from therapeutic phlebotomy and the "Rest Cure" in the gas light era through World War I, to portable carbon dioxide (CO₂) mixtures from the 1920s to 1960s, and 100% hi-flow oxygen since the 1970s. Pros and cons of these methods are compared side-by-side with those of newer methods including drugs, light and blood transfusions.

Results: We find that phlebotomy provides the fastest CO excretion from blood and tissues, followed by breathing CO₂ mixtures. Treatment with 100% oxygen at both hyperbaric and normal pressures actually raises CO in tissues and carries a 5 to 10-fold higher risk of causing the DNS that oxygen is meant to prevent. Oxygen does this by displacing CO from hemoglobin into arterial plasma, raising

the partial pressure of free CO and causing more CO to diffuse from there into tissues. In contrast, older CO₂ treatments—unlike oxygen—accelerate CO excretion primarily by increasing minute ventilation. Improved results compared to treating with 100% oxygen alone also have been reported for seven non-respiratory CO treatments but only in one or two studies each.

Conclusions: Sufficient evidence exists to warrant randomized clinical trials testing the effectiveness of phlebotomy (with and without transfusions) and breathing CO₂ mixtures compared to breathing 100% oxygen at accelerating CO excretion and reducing the risk of DNS. Regardless of method, we recommend that clinicians treat CO survivors until the level of CO coming out of tissues in veins no longer exceeds the arterial level going in. While this requires repeating measurements of arterial and venous CO, both can now be done non-invasively at bedside in less than minute via breath gas analysis or transcutaneous pulse CO-oximetry.

5. Thank you to Joe Rose for providing lunch!
6. Next Meeting- March 23, 2017 10am-12noon.