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AEROMED OUTREACH

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WHAT IT TAKES TO BE AEROMED FLIGHT CREW MEMBER

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UPCOMING OUTREACH ACTIVITIES

- **Aeromed Community Education Session August 3rd at 0900. Contact Jennifer Mefford at jmefford@tgh.org for more information.**

For many people in healthcare, becoming a part of an air medical team is a dream. Air ambulances fill a lot of different roles in healthcare and transport many different types of patients. In order to be an effective air crew member, you must be well-versed in patient populations .You must possess essential ground skills, including loading and unloading patients into the aircraft, working next to aircraft, and have good verbal and non-verbal communication skills,.

Aeromed requires 5 years of acute care experience with either a busy ground EMS service, emergency department or ICU.

Air ambulance work is very demanding and thus a decent amount of physical ability is required. Lifting patients and equipment, moving, bending, kneeling, standing and often in rather cramped, uncomfortable aircraft interiors are skills that an effective air medical crew member needs. Aeromed flight crew members must also adhere to the established weight policy of 250 pound maximum or BMI of 32 or below.

Aeromed applicants must have appropriate licensure, and are encouraged to have BCLS, ACLS, ATLS, PALS, NRP, DOT-approved Aeromedical Crew National Standard Curriculum course and Water Survival Training Course. Flight crew members must also acquire one advanced certification within one year of hire date.

Aeromed encourages interested applicants to ride along with flight crew members. Please contact Jennifer Mefford at jmefford@tgh.org for additional information.

PHYSICIAN ARTICLE

<u>Modified Valsalva Maneuver</u>

You are dispatched to the home of a 55 year-old male who is complaining of palpitations. You arrive on scene to find him sitting up, awake and alert and in no acute distress. He states that he's been having fluttering in his chest for 3 hours. The blood pressure (BP) is 127/86, respiratory rate (RR) 14, heart rate (HR) 170, Sp02 99% on room air. A 12-lead EKG is obtained and shows a narrow-complex, regular tachycardia with a rate of 170. You and your partner recall that the differential diagnosis of narrow-

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PHYSICIAN'S ARTICLE CONTINUED

complex, regular tachycardia includes sinus tachycardia (ST), supraventricular tachycardia (SVT) and atrial flutter. Keeping in mind that, as a rule of thumb, ST maximum HR is typically 220-age (220-55=165) leads you to think this is likely SVT or atrial flutter. Based on this, the decision is made to terminate this dysrhythmia and hopefully put the patient back into sinus rhythm. You attempt a Valsalva maneuver by having the patient bear down. This is unsuccessful. You then administer 6 mg of adenosine without success. You proceed to administer 12 mg of adenosine. The patient develops a typical ventricular pause and then converts to sinus rhythm with a HR of 70. You neglected, however, to warn the patient that he will feel terrible as though he is going to die for a few seconds. The patient was very uneasy with this and was upset. He was happy that his dysrhythmia resolved though. So, what can be attempted other than Valsalva maneuver to stop SVT non-pharmacologically? The answer: modified Valsalva maneuver.

In 2015, a study was published in Lancet titled Postural modification to the standard Valsalva maneuver for emergency treatment of supraventricular tachycardias (REVERT): a randomized controlled trial. In brief, the study introduced a modified Valsalva maneuver that involved a standardized strain for 15 seconds followed by lying flat and having a passive leg raise to 45 degrees for 15 seconds. The patient is then sat up. The study compared this maneuver to a standard 15 second strain. The standard strain was an expiratory pressure of 45 mm HG measured on a manometer for 15 seconds. (Of note, the pressure to move the plunger of a 10 mL syringe is about 45 mm Hg. So, have the patient blow in a syringe for 15 seconds just enough to move the plunger.) The primary outcome was return to sinus rhythm at 1 minute. The study found a 17% conversion in the standard group and a 43% conversion rate in the modified maneuver group. The number needed to treat was 3. There were no serious adverse events.

The Valsalva maneuver is a recommended treatment for SVT. Cardioversion is uncommon, however, and is quoted as 5-20% in the literature. In my experience, cardioversion is much closer to 5% or even less, but that is my opinion. The ability to have successful cardioversion in 43% of SVTs is very attractive. Although the administration of adenosine is safe, patients do not enjoy the impending sense of doom associated with it.

Of course, if the patient has an unstable tachydysrhythmia proceed to synchronized electrical cardioversion. If stable, however, consider using this technique. It is easy, inexpensive, yet effective.

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