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The usability of a latent heat biological fluid warmer

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The feasibility of warming blood and other intravenous fluids with a latent heat storage material has been demonstrated using the Latent Heat Biological Fluid Warmer. This could prove to be an effective method of warming blood and other intravenous fluids at retrieval sites and reducing the incidence of hypothermia in trauma patients. However, the usability of this device needs to be investigated to demonstrate that it will be useable and effective in retrieval situations where subjects have only basic instructions. The project involved recruiting 30 nurses that had no previous exposure to the device. Each participant was asked to assemble the Latent Heat Biological Fluid Warmer for use, by reading the basic instructions on the front of the packaging and was videoed while completing the task. Each video was analyzed and compared to a previously set standard on how to effectively assemble and use the device. The participants were asked to complete a short survey on their opinion of the usability of the device and aspects of the instructions that could have been better illustrated. The use of the Latent Heat Biological Fluid Warmer was generally well done. Most participants completed the task in a reasonable timeframe and assembled the device correctly. From the surveys it was evident that clearer instructions were needed to optimize the use for first-time users. In conclusion, the device is useable and effective for use among first-time users by reading basic instructions on the front; however, improvements to the instructions need to be made.

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Intra-vitreous injections success for BRVO in a young patient with Factor V Leiden mutation

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We present a case of a 38 year old Caucasian male who presented to out of hours services with a sudden deterioration of visual acuity in both eyes over a period of 2 weeks. The presenting visual acuity was perception of light in the left eye and 6/5 in right eye. Visual acuity for this patient is normally 6/6 in left eye and 6/5 in the right eye with glasses. Examination of the eyes at the first visit revealed pan-uveitis, hypopyon in the anterior segment and severe vitritis of the left eye for which steroid treatment was initiated. Fundal view was not possible however, intra-ocular pressure was normal. The right eye was grossly normal. While on treatment for pan-uveitis and awaiting hematology review, the patient presented to A&E 10 days later with a sudden deterioration in visual acuity to 6/24 in the right eye. Ocular examination of the fundus with slit lamp revealed a branch retinal vein occlusion (BRVO) of the right eye with macular edema. Ocular examination of the left eye revealed a clearing hypopyon and hazing fundal view. The patient was initiated on steroid treatment for right eye and brought to clinic the next day for consultant review. Assessment of risk factors revealed a past medical history of Budd Chiari syndrome secondary to heterozygote Factor V Leiden (FVL) mutation. This was diagnosed three years prior after diagnosis of a deep vein thrombosis. A further investigation revealed him to be Activated Protein C (APC) resistance and the patient was diagnosed with FVL. While under surveillance with hematology extensive intra-abdominal venous thrombosis resulting in a Budd Chiari syndrome was discovered due to the patients' hypercoagulable state. To relieve this thrombosis a stent was inserted and the patient was commenced on once daily 90 mg of low molecular weight clexane. Despite this attempt at anti-coagulation the patient developed a BRVO which required urgent treatment. An optical coherence tomography (OCT) exam was performed to assess the retinal infrastructure and fluid collections. The OCT results were grossly abnormal for the right eye and treatment for BRVO was commenced immediately after urgent discussion with hematology. Once daily oral steroids 80 mg and atropine drops were continued for the left eye pan-uveitis and the patient was also listed for intra-vitreous Lucentis injections for the BRVO. The patient was seen back in clinic within one week with grossly improved visual acuity and OCT results. The visual acuity was 6/24 in the left eye and 6/9 in the right eye. The patient is due to have a fluorescein angiography as a few retinal hemorrhages were noted on fundal examination at the patients most recent visit. The patient is also awaiting their second Lucentis injection.

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