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### Tech 4x40-40: A no-pump technique to save possibly 1 million trauma patients yearly

Yearly 3 million persons die out of hospitals from trauma despite advanced CPR using O<sub>2</sub> gas at 37 °C. Tech 4x40-40 will use, alternatively the artificial blood AB, a new preserving solution containing the requisite amount of O<sub>2</sub> at 10 °C. Two related poster presentations were made APSC 2017-Singapore: ECHO the possible alternative to ECMO for heart failure patients-mentioning tech 4x40 briefly in my presentation. TTS 2018-Madrid: Tech 4x40-40: A no-pump technique for transplantation preservation procedures. Bigelow in 1950's and Gibbon in 1960's laid down the basis of hypothermia and concluded that at 15 °C the metabolism is reduced to 1/7. By extrapolation it is ≈1/15 at 10 °C resulting in consequential reduction in O<sub>2</sub> requirement. The following new life-saving technique Tech 4x40-40 is herein proposed the helplessly and inexorably dying (after, if need be, induced circulatory arrest, anesthetic or muscle paralysis to prevent increasing O<sub>2</sub> debt) or cardiac-arrest trauma patient, out of hospital, is immersed in circulating water at 4 °C. This is tech 4 which buys time of 45 minutes the core-temperature will dropped to about 27 °C at the 45th minute. Within 45 minutes a femoral artery catheter is inserted and a slit is made in the femoral vein. 100 liters of the AB are infused in 15 hours following specific modalities without using a pump, at a pressure of 40 mm Hg (Neurons die at 50 mm Hg if there is intra-cerebral bleeding) in such a way that the O<sub>2</sub> debt of the patient is paid within 2 minutes and the O<sub>2</sub> requirement is satisfied thereafter. This is tech 4x40 which will buy time of 15 hours, allowing transfer of the patients to the hospitals. In the hospitals, further infusion of the AB at 4 liters/hour is undertaken for 40 days=tech 4x40-40. At this stage, after this optimum life preserving technique, this will result in 2 groups of patients: (1) Survivors-with whatever intracranial bleeding stopped -possibly 1 million yearly (2) Brain Death Patients-possibly 1 million of potential donors of organs yearly.

### Biography

David Andrew Yeung attained MD degree in 1976 from University of Montpellier, France. After completing, he worked as Trainee-Surgeon in Cardio-Thoracic Surgery. He was awarded fellowships at Texas Heart Institute, St. Vincent medical Center, Los Angeles. He worked extensively on cardio thoracic related surgeries. Later he joined as Assistant-Surgeon to Prof H. Raffa in first series of open-heart surgery in Mauritius and contributed extensive research in the field of Cardio-Thoracic Surgery.

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