

## Innovation is the Need of the Hour in Stroke Care

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**United Arab Emirates – 2<sup>nd</sup> August, 2017:** Across Middle East and North Africa (MENA), stroke is increasingly becoming a major health problem, with projections that deaths from it will nearly double by 2030<sup>1</sup>. The incidence of stroke has varied extensively among studies. Studies reported rates from 29.8 per 100 000 people in Saudi Arabia to 57 per 100 000 people in Bahrain. <sup>2</sup> Specifically, in the UAE, 50% of stroke patients are below the age of 45 years, as compared to the global average where 80 percent of stroke patients are above the age of 65 years.<sup>3</sup>

The numbers are alarming, highlighting the importance to establish dedicated stroke units to save patients' lives and to ensure that treatment is carried out in a prompt and efficient manner. The four-hour time frame in emergency care needs to have reduced door-to-needle time (interval between patient's arrival to the hospital and starting the treatment) to provide effective patient outcomes.

### **Driving Innovation**

Innovation in protocol and medical administration is changing the way a typical patient interacts with the nursing team and physicians. Technology is also boosting communications between neurologists, stroke nurses, radiographers, radiologists, ambulance officers and emergency physicians.

Smart ambulances that can control the traffic light system in emergencies can help deliver patients well within the critical time needed for stroke care. In many cases, initial patient evaluation is possible remotely by the neurologist who can join in from any geographic location, so can any number of teams even while the patient is on the way to a stroke center. This multiple eyes on the case approach can prevent any oversight to prevent human errors.

Across the board, digitization is improving efficiency, enhancing stroke diagnosis, and enabling sharing of medical records, which ultimately contributes to improved clinical outcome.

Innovations other than stroke care units are helping patients reduce convalescence times in hospitals, everyday conferencing health applications are allowing virtual face time with medical professionals continue to deliver post-op care.

Health and fitness trackers are increasingly helping individuals at risk manage hypertension, diabetes and ischaemic heart disease that contribute to ischaemic strokes, the most common type of Atrial Fibrillation related stroke, which frequently leads to considerable disability and possibly death.

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<sup>1</sup> The epidemiology of stroke in the Middle East & North Africa <http://www.pubfacts.com/detail/20541222/The-epidemiology-of-stroke-in-the-Middle-East-and-North-Africa>.

<sup>3</sup> New fast-response stroke units to be set up in Dubai and Abu Dhabi <http://www.thenational.ae/uae/health/new-fast-response-stroke-units-to-be-set-up-in-dubai-and-abu-dhabi>

Those with disabilities are increasingly being helped by new advances in robotics, including exoskeletons. Virtual reality headsets are helping alleviate any pain and helping with cognitive and motor skills of those disabled by the condition.

Protocols in hospitals are extremely crucial in management and treatment of stroke. In order to save lives and encourage better patient outcomes such as having a patient walk out with minimal disability.

That said, prevention is always ideal. There are several factors which can lead to stroke such as atrial fibrillation, irregular blood circulation, and tendency for blood clotting, which requires effective treatment to minimize the chances of stroke occurrence. Increasing patient awareness to recognize symptoms leading to stroke is one thing, but it is also necessary for medical centers to have the right infrastructure and trained personnel to deal with such incidences.

### ***Managing and treating stroke***

Prevention of ischaemic stroke in Atrial Fibrillation remains a treatment priority, for which anticoagulation therapy is essential. New Atrial Fibrillation treatment guidelines issued by the European Society of Cardiology in 2012 reinforce the importance of anticoagulation for stroke prevention in patients with Atrial Fibrillation. The guidelines state that all Atrial Fibrillation patients at risk of stroke as defined should be considered for oral anticoagulant treatment<sup>4</sup>. Large Scale Real World Data is also crucial in choosing a new oral anti-coagulant as both physician and patient can ensure higher drug safety profile

### ***Developing dedicated care units***

In an ideal scenario, the patient arrives at the emergency room, is sent to the triage nurse who examines the patient and, upon confirmation, provides the treatment. The patient is taken for a laboratory test, the core team begins action, performs a CT scan and finally, the life-saving injection is administered. The longer a stroke remains untreated, the greater is the chance of stroke related brain damage. Emergency medical treatment soon after symptoms begin improves the chance of survival and effective rehabilitation.

Establishing more stroke units will directly lead to faster and better patient outcomes and aims to provide superior technology with multidisciplinary teams that exclusively manage stroke patients in a ward.

Having such centers will decrease the mortality rates, the complications and outcomes of stroke. Incorporating telemedicine and e-health tools into healthcare system, will help streamline the handling of cases and help improve overall healthcare.

A unified standard such as accreditation from an independent international body for example can create a model that can be replicated across the region taking into account the sensitivities and cultural habits of the region.

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<sup>4</sup> Camm AJ, et al. 2012 focused update of the ESC Guidelines for the management of atrial fibrillation. *Eur Heart J.* 2012;33(21):2719-47



Saving lives remains our top priority. The most important objective is to raise and drive more awareness of good stroke management among community and healthcare professionals followed by establishing a stroke unit across hospitals in different districts in the region.

**About Dr. Suhail Abdulla Al-Rukn**

*Dr. Al-Rukn, graduated from Faculty of Medicine, UAE University. He did his neurology postgraduate studies at Montreal Neurology Institute, McGill University, Canada. He pursued his Fellowship in Cerebrovascular disease and Stroke at Montreal General Hospital, Canada. He is interested in Acute Stroke intervention and Cerebral -imaging. His interest research areas are acute stroke intervention and Headache.*