

# OPMA 411: Telestroke Process for QuICR

## Winter 2017

### Background Information

The project focuses on improving the telestroke process between Foothills Medical Centre (FMC) in Calgary and Chinook Regional Hospital (CRH) in Lethbridge. An ischemic stroke is when a blood clot in an artery in the brain disrupts the blood flow. To diagnose a stroke and discern the difference between an ischemic stroke and a hemorrhagic stroke (a bleed in the brain), a physical clinical exam is done by a physician as well as a computed tomography (CT) scan which provide images of the brain. A CT Angiogram (CTA) is also completed after the CT to determine if the clot is in a large vessel occlusion.

Ischemic stroke can be treated with alteplase (tissue plasminogen activator, tPA), which is a clot-busting drug and it is administered intravenously. The other treatment for ischemic stroke is for patients that have a large vessel occlusion (visible on a CTA); EVT is specialized minimally invasive surgery where a neurosurgeon inserts a stent retriever in through the patient's groin and follows the arteries until the retriever reaches the blockage in the brain. The goal being to remove the clot from the blocked blood vessel. Alteplase treatment is available broadly at all Primary Stroke Centres (PSC), and CRH is a PSC and offers this treatment. EVT is only available in large urban tertiary hospitals called Comprehensive Stroke Centres; EVT is available at FMC. Both of these treatments are highly time-dependent, so it is critical that CRH is able to make decision

quickly to be able to treat the patient. CSC also has a team of stroke neurologists that can assist PSCs in treatment decisions.

To offer all Albertans equitable levels of quality of care; Alberta Health Services utilizes RAAPID (Referral, Access, Advice, Placement, Information & Destination), “a call center which facilitates the return of patients to a Healthcare facility closest to their home address that will best meet the patient’s health care needs” (Alberta Health Services, 2017). RAAPID is used to connect Emergency Physicians (EPs) dealing with patients who require specialist level expertise for diagnosis and treatment. RAAPID connects EPs treating potential stroke patients at a PSC, to a stroke neurologist at a CSC to assist the EP in treating the potential stroke patient. RAAPID also helps to coordinate the transfer of a patient, if both physicians agree that the patient is eligible for the EVT.

The telestroke process was created to aid hospitals that do not have the resources to quickly and confidently treat stroke patients who are suffering from an ischemic stroke with alteplase via sharing of CT and CTA images, a phone conversation between the EP at the PSC and the stroke neurologist at the CSC and videoconferencing. Ischemic strokes cause brain death; the speed in treatment is critical to the outcome of the stroke event, and the subsequent quality of life experienced. For alteplase to effectively reduce the blood clot, it needs to be as fast as possible, as time is brain. The quicker the drug is administered in relation to the onset of the stroke, the better chance the patient has of full recovery.