

May 2018

ZONE MEDICAL  
STAFF ASSOCIATIONS  
OF ALBERTA

# VITAL

COMMUNICATING WITH PHYSICIANS IN ALBERTA

# SIGNS



**A Sombre State of Mind**

**Physician of the Year Offers Wisdom on Life, Death and Duty**

**Time is Muscle: Central Alberta Community Cardiac Awareness**

**The Calgary Zone Community Medical Staff Association (MSA) is Back!**

**What You NEED to Know About Delirium!**

**The Saga Continues!**

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# VITAL SIGNS

A CALGARY & AREA MEDICAL  
STAFF SOCIETY PUBLICATION

May 2018

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Vital Signs welcomes submissions (articles, notices, letters to the editors, announcements, photos, etc.) from physicians in Alberta. Please limit articles to 1000 words or less.

Please send any contributions to: Spindrift Design Studio Inc. Hellmut Regehr, hregehr@studiospindrift.com

Vital Signs reserves the right to edit article submissions and letters to the editor.

**The deadline for article submissions for the next issue of Vital Signs is May 16, 2018.**

## CONTRIBUTORS:

The opinions expressed in Vital Signs do not necessarily reflect the opinions or positions of CAMSS or CAMSS executive.

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## Save the Dates!

### CAMSS

**Council Meeting:** May 9, 2018 | FMC Boardroom 152 – 5:30-7:30 pm

**Council Meeting:** June 13, 2018 | FMC Boardroom 152 – 5:30-7:30 pm

**Council Meeting:** September 12, 2018 | FMC Boardroom 152 – 5:30-7:30 pm

### CZMSA

**Executive Meeting:** May 17, 2018 | WebEx

**Zone Advisory Forum:** June 11, 2018 | WebEx

**Executive Meeting:** June 21, 2018 | WebEx

**Executive Meeting:** September 13, 2018 | WebEx

### EZMSA

**Executive Meeting:** May 17, 2018 | Misericordia 1N-106, 5:00-5:30 pm

**Council Meeting/AMA Rep Forum:** May 17, 2018 | Misericordia 1N-106, 5:30-7:30 pm

**EZMSA Golf Tournament:** May 31, 2018 | The Links – Spruce Grove, 2:00 pm

**Executive Meeting:** June 21, 2018 | Misericordia 1N-106, 5:00-5:30 pm

**Council Meeting/AMA Rep Forum:** June 21, 2018 | Misericordia 1N-106, 5:30-7:30 pm

**Executive Meeting:** September 20, 2018 | Misericordia 1N-106, 5:00-5:30 pm

**Council Meeting:** September 20, 2018 | Misericordia 1N-106, 5:30-7:30 pm

### SZMSA

**Executive Meeting & ZAF:** May 7, 2018 | Lethbridge, 5:30 pm

**Executive Meeting:** September 10, 2018 | Lethbridge, 5:30 pm

# A Sombre State of Mind

Dr. Sharron Spicer



Dr. Sharron L. Spicer

I'm in a sombre state of mind as I write this month's Vital Signs editorial. The past month has brought me face to face with others' grief in many forms—some events public, others much more private. Last month, I wrote about compassion fatigue. This month, I have lived it

The tragic Humboldt Broncos bus crash of April 6, 2018, that killed 16 and left others critically injured is still front of mind. In Toronto, just today, a van plowed into pedestrians on a sidewalk. The death toll is not yet known. Other world events have garnered headlines with reports of deaths and tragedy.

As a pediatrician, deep sadness is interspersed with joys in my work. Feeling particularly tired recently, and in the aftermath of the Humboldt tragedy, I confided in a colleague about the stresses of my week: testifying in court to support a child apprehension order; sitting with a mother in her ragged despair following her teen's suicide; addressing shortcomings in a system where missed symptoms caused delays in treatment. My colleague humbly and astutely reflected on the trauma that we as physicians often face, whether we treat the physical injuries or support the emotional needs. Her response was a reminder to me that this is hard work. For me, that acknowledgment — and a bit of rest — was all I needed to keep going.

I'm mindful, though, that many in our midst are experiencing profound grief following recent tragedies. The Humboldt Broncos tragedy has directly impacted people in our communities. Parents, aunts and uncles, friends, teachers, coaches and fellow hockey players have lost loved ones in the prime of their lives. First responders and medical/healthcare colleagues faced chaotic and gruesome scenes as they responded to casualties. Local leaders, clergy and the Broncos' leadership supported the Humboldt community even as they were reeling themselves. For bereaved families and others left behind, and for survivors of the crash who still suffer injuries, their lives have changed profoundly and permanently. For others of us who are at a distance from the tragedy, it is still sobering to know that life can change in an instant — and a reminder to live life to its fullest while we have it. Please be kind to yourselves and to one another, especially if you find yourself in a difficult time.

**Sharron Spicer, MD, FRCPC**

*Pediatrician, Physician Lead for Safety and Chair of the Alberta Children's Hospital Quality Assurance Committee;  
Past President, Calgary and Area Medical Staff Society*

# PHYSICIAN OF THE YEAR OFFERS WISDOM ON

# Life

# Death AND

# Duty

David Staples

The Physician of the Year award for the Edmonton area this year belongs to Dr. Melanie Currie of Spruce Grove, who can tell you a great deal about life, death and making a career as a family doctor.

Currie has practised medicine for 20 years. She likes how varied her work is, a mix of family health, obstetrics, acute-care hospital work and palliative care.

“It’s from womb to tomb, from conception to cremation,” Currie, 47, says. “In family practice, you get to know your patients well and you get relationships with them. I have kids that I’ve been looking after since they were little babies and I’m delivering their babies now.”

Why become a doctor? “I think I always knew I kind of liked telling people what to do... If you’re happy enough taking the lead or taking charge, it’s a good job.”

Anything else? “You really want to be an advocate and help. As lame as it sounds, that’s honestly why you think you want to do it... It’s a calling to make people’s lives better.”

She trained at the University of Alberta, then practised in Lac La Biche for three years before moving to Spruce Grove, where she’s been an owner-operator of the Westgrove Clinic, which has 14 doctors.

In Spruce Grove, she and her husband, Hiroki Currie, a forestry biologist, decided he would work at home as a mechanic and woodworker and be the primary stay-at-home parent for their two children, which freed her up to work.

“I always felt I could do it because Hiroki was there,” she says.

From 2005-11, Currie was lead physician for the Westview Hospital’s maternity program, where she worked closely with midwives. Midwives had a bad name with many doctors, mainly because doctors were only called in when things went wrong with a midwife delivery. But doctors came to learn from the midwives, she says.

“For delivering babies, we always used to deliver baby, clamp and cut cord, take baby away, put it on the warmer, weigh it, all these things,” Currie says. “The midwives do it a little different: put the baby on mom, leave it alone, cut the cord at their leisure, and never even worry about weighing the baby. Guess what we (physicians) all do now? Exactly what the midwives did. Because the evidence shows it’s better, that is actually transitions the baby to life better, less respiratory troubles, less all sorts of troubles.”

In 2014, Currie helped establish the Westview Hospice in Stony Plain. Her rule is to keep her dying patients comfortable.

“They should not have pain.

They shouldn’t have nausea. They’re going to have confusion, but I should try to make it better if I can. And I try to be a support for the families, as well. Sometimes, the patient is totally ready and the family is not. I standardly tell everybody, ‘We all die. We can’t get out of it.’ It’s just you want to make it as good of a process as you can.”

As for the award, handed out by the Edmonton Zone Medical Staff Association, Currie felt a bit embarrassed to win, she says, because she knows the region is full of amazing doctors.

“I got it because I’m a girl,” she jokes.

In medicine currently, she finds female physicians are the hardest workers. She says she’s never felt discriminated against because of her sex: “I never felt being a woman made it harder. I never came across that, or didn’t recognize it.”

The award was special in one important way — the reaction of her 20-year-old daughter, Julia, a business student at the University of Alberta.

“The coolest part about it — you’re going to laugh — is that my daughter said to me that I inspired her. And I had never heard that from her, ever.

“I never get the impression that (my children) like my life. ‘Cause I’m gone a lot. I always remember when I was doing deliveries in Stony (Plain), because it was just me doing them, and I was taking my daughter and her friend to some 4-H thing, and I had a lady suddenly show up in labour. I had to call my husband to meet me on the highway and transfer the kids so I can go and catch a baby.”

Currie was hesitant to give this interview, but her daughter persuaded her.

“She said she felt I needed to because women needed to know they can have kids and be a doctor, be a leader, be all these things, that you could really do it all.”

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## Time is Muscle: Central Alberta Community Cardiac Awareness

Authored by the Department of Cardiovascular Sciences, Central Zone

February 24th was a big night for Cardiac Services in Central Alberta as the first annual “Time is Muscle” Dinner and Show for Community Cardiac Awareness hit center stage. The event’s aim was to support local services to address the negative disparity in outcomes for those presenting with acute coronary syndromes (ACS) in Central Zone compared with Invasive Hospitals (hospitals with Cardiac Catheterization Labs). The event coined its name from a paper of the same title by Cardiologist Dr. Gustavo Nogareda who is Assistant Professor with the University of Alberta and the Physician Lead for Cardiovascular Sciences for the Central Zone.

Tickets rapidly sold out and many had to be turned away before 200 people attended the dinner and “Time Machine Retro Rock and Roll Review” show directed by the talented Harley Hay. Guests also enjoyed a fun photo booth, a live painting by Max Kozachenko for auction as well as 50 silent auction items. A 50/50 raffle also helped raise the event total to nearly \$13,000, which was donated to the Red Deer Regional Health Foundation for cardiac care. The event not only raised funds, but also engaged the community in awareness for the need for a Cardiac Catheterization (Cath) Lab for Central Alberta and expansion of the Red Deer Regional Hospital.

Local politicians, including Mayor Tara Veer, MLA Kim Schreiner and Councillor Ken Johnston, attended to show their support. MLA Ron Orr also attended and accepted letters from attendees to personally deliver in the Alberta Legislature. An awareness video included various Central Alberta physicians describing a profound inequity in health care resources, and testimonials from community members who have suffered due to lack of services.

The media also covered the event including CTV, the Red Deer Advocate, rdnewsNOW and the Red Deer Express.

For over a decade the Central Zone Cardiovascular Department has worked diligently and successfully on many quality improvement initiatives to optimize care and efficiency despite the lack of new resources.

Within that period, four Cardiologists were hired to complete a team of six, an advanced echo program was launched, a clinical assistant program was created to build capacity and the Heart Function Clinic underwent an efficiency optimization processes leading to an increase in capacity and pioneered discharge criteria years in advance of the Canadian Cardiovascular Society guidelines. Despite these actions, Central Albertans with heart attacks continue to have poor outcomes when compared with the population living in the urban centers in Alberta, where angioplasty facilities are locally available.

It is important to consider that currently Central Alberta has the population base to generate enough cath-lab procedures (angiography,

angioplasty, etc) sustaining optimal skills of the doctors delivering angioplasty and the city of Red Deer has been identified as the most appropriate site for a new cath-lab in Alberta, since it will allow to deliver angioplasty within 90 minutes to more citizens, than any other new location in Alberta.

According to the Heart and Stroke Foundation, heart attack is the leading cause of death in Alberta. For people with heart attacks, “TIME IS MUSCLE”; the longer the delay in opening blood vessels, the larger the heart damage and higher the mortality and disability. The best therapy for opening occluded cardiac arteries is Percutaneous Coronary Angioplasty (PCA) with an average success rate of  $\approx 95\%$ . Thrombolysis only has a success rate of  $\approx 50\text{-}70\%$  and its use is associated with an increased risk of hemorrhagic stroke.

The optimal timing for PCA to deliver best results is  $< 90$  minutes from 1st medical contact.<sup>1,2</sup> Due to geographical distance, only the population with ST Elevated Myocardial Infarction (STEMI) living in Edmonton and Calgary can receive PCA within this optimal window.

### Time Delay

According to the German prospective, multicenter FITT-STEMI trial (12,675 patients); first medical contact-to-balloon time (PCA) >90 minutes was associated with higher mortality compared with ≤90 minutes (12.2% vs. 3.9%). For patients with cardiogenic shock, there was a nearly linear relationship between treatment delay and mortality (in the crucial time period from 60 to 180 minutes from the first medical contact), suggesting a 3.3 fold increase in the risk of death for every 10 minutes delay.<sup>3</sup>

Most ACS patients (≈ 80%) require angiography. Unfortunately for Central Albertans, the only immediately available therapy is the less effective thrombolysis; therefore, STEMI patients with failed thrombolysis (≈ 30–50 %) require urgent transport for rescue PCA. Much of the Central Zones 477,000+ inhabitants live 3 hrs (150+ km) away from invasive hospitals. This leads to an average total ischemic time (from symptom onset to reperfusion) of 5+ hours. Of those 5 hours, approximately 70% is driven by system delay; significantly longer than the optimal 90-minute window for effective reperfusion.

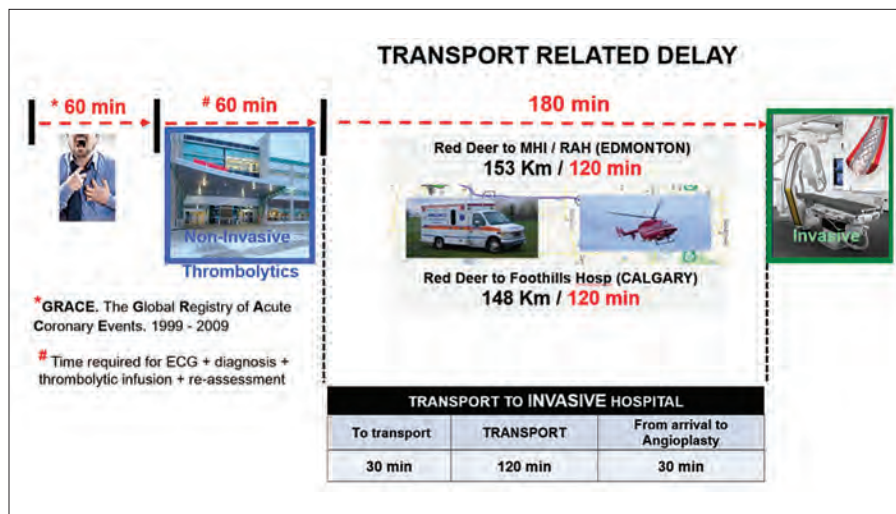
### Mortality, Re-Hospitalization, Length of Stay and Standard of Care

The largest real world study on STEMI patients (The Swedish Registry 26,205 patients) compared all available reperfusion treatments including prehospital thrombolysis (PHT), in-hospital thrombolysis (IHT) and Primary PCA. In this population, Primary PCA reduced short and long term mortality and reinfarction by 30% and 40%, shortened hospital stay [by 2 days] and reduced later need for hospital care. Primary PCA is today the treatment of choice for patients presenting with STEMI.<sup>4</sup>

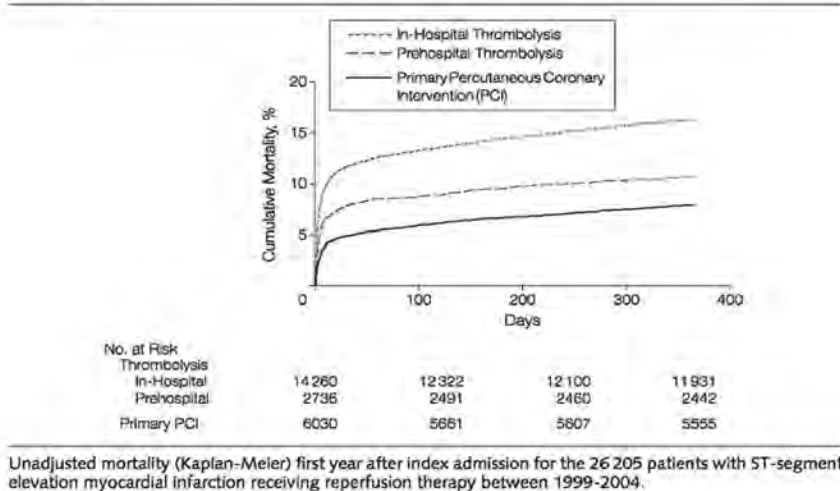
According to the Canadian Institute for Health Information, the Central Zone population with ACS suffers higher mortality, re-hospitalization and stroke rates with longer lengths of hospital stay; than the population living in communities with invasive hospitals in Alberta.

### Ischemic Stroke

Ischemic stroke is the second leading cause of cardiovascular death after heart attacks and a major source of severe disability amongst survivors. Endovascular treatment

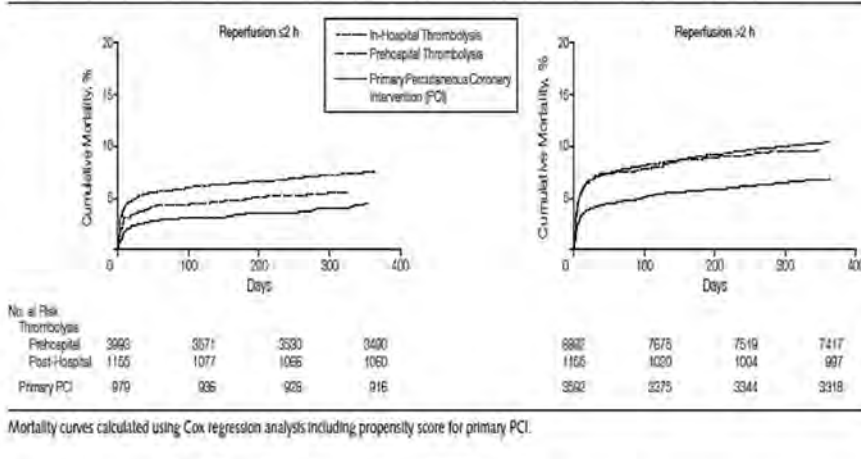


**Figure 2.** Unadjusted Cumulative Mortality During the First Year After the Index Event Admission



The striking benefits were observed even amongst those patients that received PHT < 2 hrs, when lysis efficacy is best.

**Figure 3.** Estimated Cumulative Mortality for Patients Receiving Reperfusion Treatment Within or After 2 Hours of Symptom Onset



– continued from page 5

Making angioplasty and stent retrievers available at the heart of the Central Zone is the most effective means to overcome the geographical barrier for timely reperfusion, to achieve standard of care, save operative funds and most importantly save lives and reduce disability. This is achieved by simply delivering the right treatment at the right place and time.

(mechanical thrombectomy with stent retrievers) for acute ischaemic stroke due to proximal intracranial large vessel occlusion has been shown to be effective and safe in several randomised controlled trials and subsequent meta-analyses.<sup>5,6,7,8,9</sup> More recently it also has been confirmed that in routine clinical practice, endovascular treatment for patients with acute ischaemic stroke is at least as effective and safe as in the setting of a randomised controlled trial.<sup>10</sup> Due to the major reduction in mortality and disability, endovascular treatment is currently the standard for patients with ischemic stroke with best results when delivered < 6 hours from symptoms onset.<sup>11</sup>

Due to the short time window for effective brain preservation and mortality reduction, the Central Alberta population living many hours away from the centers with invasive vascular facilities; receive substandard care and experience significantly worst outcomes.

Fortunately, invasive cardiology centers can achieve short CT to Catheter times thanks to their experience with angioplasty for acute myocardial infarction. Evidence demonstrate that acute stroke care performed by interventional cardiologists can deliver results comparable to those of neuro-interventional centers.<sup>12,13</sup>

**Cost Savings**

The 2011 Central Zone Cardiovascular Sciences Department “Time is Muscle” report extends beyond morbidity and mortality to include cost savings. A conservative analysis considering only 70% of the Central Zone population demonstrated a major cost advantage for developing a new invasive cardiology program; leading to an annual savings of \$3.4+ million. These savings are driven by less utilization of transport systems (ground and air ambulances), shorter hospital stays and fewer rehospitalisation and stroke. Savings are expected to increase as the population and demands grow. It is important to note that the operative cost for Central Albertan’s requiring PCA is already spent at invasive hospitals, however due to late delivery of PCA, it is associated with suboptimal outcomes.

It is important to note that this cost analysis was released in 2011; however, according to the City of Red Deer’s Census, its population has continued to grow with a 52% increase between 2000-2016.<sup>14</sup>

This analysis didn’t include the cost-effect of timely angioplasty on productivity, utilization of implantable cardioverter defibrillators (ICDs), out-patient visits to heart function clinic and other resources more frequently required for a population with larger heart damage.

A similar analysis by Edmonton researchers looked at the cost-economic tipping point for developing a new invasive facility considering the cost of laboratory construction, ambulance transportation, procedures, and expected clinical volume. Their analysis arrived to similar conclusions; identifying that populations of 200,000 located 150 km away from PCA centers is economically attractive.<sup>15</sup>

Not only does Central Alberta have the population to surpass the cost-economic tipping point, but also to generate enough Cath-Lab procedures (angiography, angioplasty, stent retrieval, etc) to sustain physician skills for these procedures.



The Edmonton and Central Zone cost analyses included the cost associated with ambulance transport, however they did not consider that these resources are drawn from a finite pool

of personnel and vehicles. A limited number of ambulances are available to respond to 911 calls. EMS crews are required to remain at the PCA facility with their patients, which removes that crew from being available to respond to EMS calls within their primary zone. This deployment model has a negative impact on the availability of EMS.

Making angioplasty and stent retrievers available at the heart of the Central Zone is the most effective means to overcome the geographical barrier for timely reperfusion, to achieve standard of care, save operative funds and most importantly save lives and reduce disability. This is achieved by simply delivering the right treatment at the right place and time.

The Central Zone Cardiovascular teams’ intention is to propose an evidence-based decision-making model and to express its trust in the good will and skills of our elected officials to help deliver this cost and life-saving strategy.

TIME IS MUSCLE and muscle is life. The amount of community participation and generosity for this event was immense and impactful. Central Albertans care about the welfare of Central Albertans and are speaking out to achieve equitable care by way of a Cardiac Catheterization Lab and expansion of the Red Deer Regional Hospital.

STEMI 1 <sup>st</sup> Choice Therapy	Length of Stay	Outcomes Mortality, Re-hosp, Stroke	Transport
 <p>Non-invasive Thrombolysis</p>	<p>7 Days (2 extra days)</p>	<p>Higher</p>	<p>Most patients</p>
<p><b>818 patients with ACS</b></p>		<p>\$ 1,799,600</p>	<p>\$ 148,500 - \$ 100,000</p>
			<p><b>Extra Operative Cost \$ 3,404,400</b></p>
 <p>Invasive PCA</p>	<p>5 days</p>	<p>Lower</p>	<p>No</p>





Red Deer Regional Health Foundation Cheque Presentation to Cardiology Department April 5th. (Left to right: volunteer Dawn Degenhardt/ baby Charlie, Dr. Jitendra Singh, RN James Morton, Red Deer City Councillor Ken Johnston, volunteer Judy Dorland, Foundation Director Manon Therriault, Foundation Coordinator Lori Leduc, Organizer / Videographer/ Music Director Harley Hay, Cardiology Manager George Belanger, Cardiac Sciences Director Kelly Lehman, Dr. Jeff Pimm, Dr. Gustavo Nogareda, volunteer Grace Higgins, organizer Vanessa Higgins-Nogareda, Hospital Executive Director Rob Swanson.

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Dr. Sandy and Dorothy Murray literally “showing” their support!



Organizer Vanessa Higgins-Nogareda and cardiologist Dr. Stephen Tilley sporting red for the cause.

# The Calgary Zone Community Medical Staff Association (MSA) is Back!

Dr. Elisabeth Woolner, Dr. Margot McLean



Dr. Margot McLean



Dr. Elisabeth Woolner

The Community Medical Staff Association (CMSA) is back! After many years of absence from the Calgary and Area Medical Staff Society (CAMSS), my colleague and I have come forward to get a community MSA up and running. Existing subsidiary medical staff associations' members are either geographically based in sites (hospitals), or are part of an organization such as Calgary Laboratory Services, with members located throughout Calgary. Without a community MSA, a voice for physicians without a primary hospital affiliation was missing and the Community MSA is intended to fill that gap.

Dr. Margot McLean and I are family physicians who work primarily in the community. Dr. McLean is the President, and I am the Secretary/Treasurer of the new Community MSA.

Margot and I graduated in the same medical school class from the University of Calgary and we have both served in various roles, including on the board of our Primary Care Network. We also participate in the education of undergraduate medical students in our community offices and act as mentors for medical students.

When Margot was initially approached to form a Community MSA, she saw it as a unique opportunity to promote the voice of a group of physicians who sometimes feel under-represented. We are both excited about the chance to represent community physicians at CAMSS and at the tables where CAMSS is present, such as the Zone Medical Administrative Committee (ZMAC) and committees related to search and selection of AHS leaders, service planning and delivery, medical staff bylaws, and quality and safety of medical care. "I'm afraid that many of our community colleagues don't understand what the purpose

of CAMSS is, or feel like it's relevant to their professional lives," Margot explains. "We want to change that. The Community MSA is the independent voice for community docs. Our funding comes from our members, so we have the freedom and the mandate to represent our members without having to answer to any other body."

Outside of my own community clinic, I also hold a position in the Cumming School of Medicine as Director, Alumni Engagement. My job in alumni engagement is all about getting to know many diverse people and figuring out how to meet their needs as well as help them feel connected to a larger community. I see some parallels in this new role I've taken on, and I hope I'll be able to use the skills I've developed in my alumni role in my position with the Community MSA.

Both of us are eager to meet our current members, and of course, recruit new members as well. We're interested in learning about the issues that matter to community physicians, both family practitioners and specialists. As we are both family physicians, we particularly need input from our specialist colleagues who belong to the Community MSA. We realize that the concerns of those specialist physicians in the community may differ from those of our colleagues in family practice.

The Community MSA will make its debut public appearance at the Department of Family Medicine's *Main Event*, which will be held on June 8 at the Coast Plaza Hotel. We are hosting a wine and cheese social hour, which will precede the departmental awards presentations. We will also have an information booth at the showcase, and we hope to meet a lot of our members there.

Margot and I welcome your emails at [margot@shawcable.com](mailto:margot@shawcable.com) or [ewoolner@shaw.ca](mailto:ewoolner@shaw.ca).

**Elisabeth Woolner, MD and  
Margot McLean, MD**

*Both have been GPs in Calgary for over 20 years*

## Wine & Cheese Social Hour

The Community Medical Staff Association (a subsidiary MSA of CAMSS) is hosting a Wine & Cheese Social Hour at the upcoming Department of Family Medicine Main Event on June 8th at the Coast Plaza in Calgary.

Please stop by and visit the CMSA Executives and enjoy the opportunity to socialize and celebrate with colleagues when the DFM presents the 2018 Specialist Physician of the Year and Family Physician of the Year Awards.

**Wine & Cheese Social and Awards Presentation 5:30pm – 6:30pm**

**19th Annual DFM Showcase 6:30pm – 8:30pm**

Visit the CMSA booth for more information on the benefits of belonging to the Community MSA!

THE DEPARTMENT OF FAMILY MEDICINE  
invites you to

# #DFMMainEvent

*An event like never before!*

JUNE 8, 2018 | 13:30 - 20:30  
COAST PLAZA - NE CALGARY

## *The MainEvent features*

**1:30 Registration & Welcome**

**2:15-4:15 The 52nd Annual Mackid Lecture (CME accreditation pending)**

Theme: ***Adverse Childhood Events (ACE) - from Research to Practice***

featuring Keynote Speaker: Nicole Sherren, PhD

followed by Panel Discussion - *What would ACE look like in your clinic and for your patients?* featuring panelists

Dr. Keith Dobson, Dr. Richard Lewanchuk, Dr. Sanjeev Bhatla, Dr. Van Nguyen, Dr. Teresa Killam,  
Dr. Nicole Sherren, Dr. Penny Borghesan

**4:30 - 5:30 Physician Wellness Seminar**

- Financial Health presentation featuring MD Financial Management

- Physician Health presentation featuring The Physician and Family Support Program (PFSP)

**5:30 - 6:30 Wine and Cheese Social Hour**

Sponsored by the Community Medical Staff Association

(subsidiary of Calgary and Area Medical Staff Society (CAMSS))

- Come meet Dr. Margot McLean (President) and Dr. Betsy Woolner (Secretary)  
of the newly formed Community MSA

**6:00-6:30 The 2018 Department of Family Medicine Specialist Physician of the Year and  
Family Physician of the Year Awards**

**6:30 - 8:30 The 19th Annual DFM Showcase**

A valuable evening, in trade show format, providing opportunity to talk with AHS programs, services, and supports for you and your patients. Featuring appetizers and cash bar.

You are welcome to join us for one or all portions of the event!

**To learn more & register, visit  
[calgaryfamilymedicine.ca/mainevent](http://calgaryfamilymedicine.ca/mainevent)**

# What You NEED to Know About Delirium!

Dr. Frances Carr



Dr. Frances Carr

## What is Delirium?

Delirium is defined by an acute (hours to days) change in cognition and in attention with fluctuating severity throughout the day, which is associated with disorganized thinking and/or altered level of consciousness. It is usually reversible, with common etiologies including acute medical illnesses, drug intoxication or withdrawal. While the pathophysiology of delirium is not entirely clear, current evidence supports the presence of a significant acetylcholine deficiency, in addition to other neurotransmitter imbalances.

The clinical presentation of delirium is variable. In hyperactive delirium, individuals typically present with psychomotor agitation, heightened anxiety and increased vigilance. Hypoactive delirium, on the other hand, is associated with reduced psychomotor activity and functioning, and is often missed. In mixed delirium there is fluctuation of symptoms between these two states. Subsyndromal delirium refers to the individuals who present with some but not all of the core features of delirium.

Predisposing risk factors for delirium includes increasing age, underlying cognitive impairment, psychiatric illness (i.e. depression), complex medical comorbidities, anticholinergic medication burden, polypharmacy, sensory impairment, functional impairment and frailty. Precipitating risk factors which can trigger the development of delirium includes acute illness, surgery, the use of certain medications, dehydration, malnutrition and iatrogenic events, e.g. urinary catheterization.

## The Consequences...

Delirium is common amongst hospitalized older patients. Up to 50% of hospitalized seniors develop delirium, with the incidence increasing to 80% for older adults admitted to ICU and individuals at the end of their life. Delirium is also prevalent amongst seniors presenting to the emergency room: 8-17% will have delirium at presentation, with the number rising to 40% amongst nursing home residents.

The consequences of delirium are substantial, and include increases in patient distress, morbidity, mortality, length of stay, and healthcare costs. Mortality risks are comparable to those from an acute myocardial infarction. The presence of delirium also increases the risk of complications, such as aspiration, falls, pressure ulcers and deconditioning.

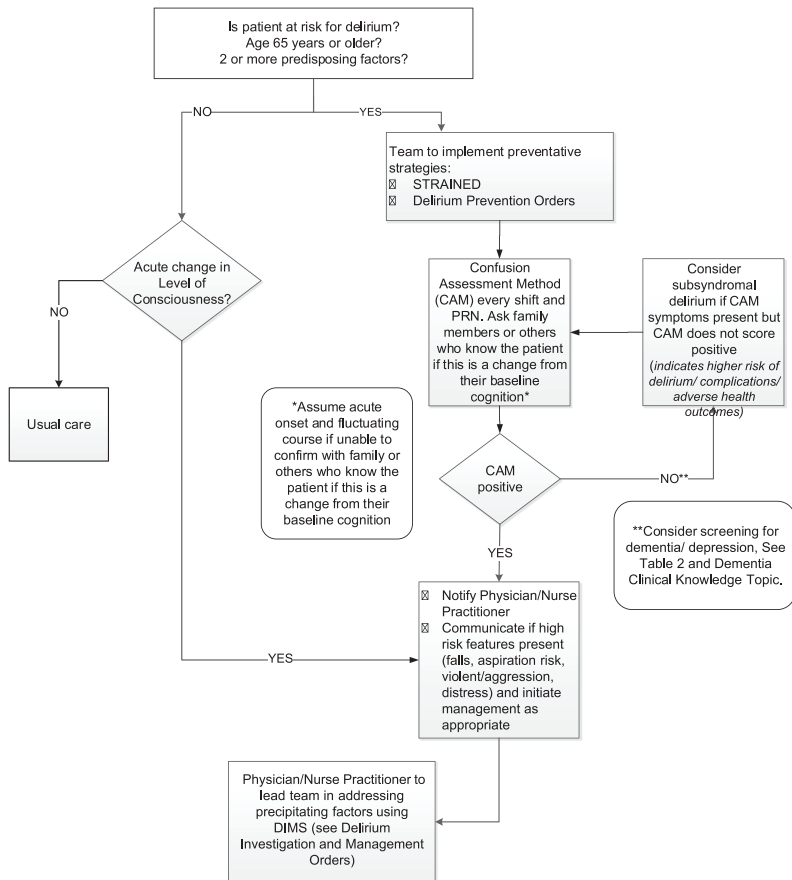
Delirium is preventable in most cases. The most effective prevention interventions are inter-disciplinary based and consist of multi-

ple components, and focus on the reduction of predisposing factors and avoidance of precipitating risk factors.

## The Clinical Knowledge and Content Management (CKCM) Program

The Clinical Knowledge and Content Management (CKCM) program was formed to render Alberta's best clinical content for translation into the Connect Care clinical information system (CIS). The proposed content includes standards (terminologies, lists, etc.), documentation (templates, flowsheets, etc.), decision supports (references, advisories, order sets, etc.), aids to assist clinical inquiries, and performance measures (performance indicators, quality measures, etc.).

CKCM organizes the clinical content work into clusters called Clinical Knowledge Topics (CKTs), each of which support a specific



**Figure 1. Decision Making Algorithm**

Reproduced from: <http://insite.albertahealthservices.ca/assets/klink/et-klink-ckv-delirium-seniors-inpatient.pdf>.

clinical purpose. CKTs summarize evidence-informed best guidance for particular diseases, conditions or patient populations. Examples of CKTs include Acute Kidney Injury in Adults and Dementia in Seniors.

CKCM has recently published a new provincial clinical knowledge topic on delirium for hospitalized seniors, which is available on the Clinical Knowledge Viewer at <http://insite.albertahealthservices.ca/assets/klink/et-klink-ckv-delirium-seniors-inpatient.pdf> for all AHS employees.

The Delirium CKT was developed to help provide users with education and deliver provincially standardized guidance towards its recognition, management and prevention. The topic contains a clinical decision support system for the assessment and management of delirium using a simplified algorithm (Figure 1), in addition to providing a recommended diagnostic tool, and 2 patient care order sets (delirium prevention (available at <http://insite.albertahealthservices.ca/frm-21015bond.pdf>) and delirium investigation

and management (available at <http://insite.albertahealthservices.ca/frm-21014bond.pdf>). There is also a section on disposition planning to help ensure patient care is optimized at the time of transitions / hospital discharge. A summary of the CKT's key recommendations is provided below.

## Summary Recommendations:

### 1. Screening

- All hospitalized patients 65 years and over or patients with predisposing factors should be screened using the Confusion Assessment Method (CAM).
- Obtain collateral information to accurately determine whether the patient's current state deviates from their baseline pre-admission cognitive function; if unavailable, it is safer to assume delirium is present and treat accordingly.

### 2. Treatment of Delirium

- There is no known treatment for delirium itself.

- Delirium treatment is focused towards addressing any reversible risk factors and identifying and managing underlying high risk complications, such as aspiration risk, falls, violent/aggressive behaviors and severe distress.
- Restraints (environmental, physical, mechanical and pharmacologic) should only be used as a last resort when optimal non-pharmacological therapy has failed and there is an imminent threat to the patient/others' safety due to potential risks for morbidity and mortality.

### 3. Preventing Delirium

- Effective delirium prevention involves the use of inter-disciplinary, multicomponent strategies to optimize risk factors. This should involve implementing "elder friendly care" strategies.
- Care teams should implement strategies to prevent delirium as prevention is more effective than the treatment of delirium; 30-40% of delirium is preventable.

### 4. Disposition

- Ensure patients have sufficient time to adequately recover or plateau from their Delirious episode; recovery can take weeks to months.
- Aim to return the patient to their mobility/functional/cognitive baseline prior to discharge. Ensure they are safe to go home by the inter-disciplinary team, and determine which added supports are required for a safe discharge.
- Medication reconciliation should occur on admission, at transfers of care and prior to discharge.
- Clarify and document advanced care planning decisions, including goals of care, personal directive and/or enduring power of attorney where appropriate.
- Communicate the diagnosis of delirium to the primary care team and ensure adequate out-patient follow-up.
- Provide patient and family with education resources on delirium and discharge instructions.

Frances Carr, MD

Clinical Lecturer; Division of Geriatric Medicine; University of Alberta, Edmonton, AB

At this time links provided in this article are accessible only to AHS members.

# The Saga Continues!

Dr. Peter Jamieson



Dr. Peter Jamieson

As the new Central Parking facility (the lot formerly known as "1") nears completion, we look forward to commissioning 2,300 new stalls at Foothills Medical Centre (FMC) this calendar year. In preparation for this welcome event, we are entering into the next phase of planning - Phase 3. The accompanying table and graphic give an overview of the available parking infrastructure once we complete Phase 3.

## Parking lots that will include staff and physician parking

Lot	Type of assignment	Approximate number of staff/physician stalls assigned	Type of lot	Cost per month
Central (Lot 1)	Mixed: patient/visitor and staff/physician	600	Parkade	\$119
South (Lot 3)	Staff/physician only	300	Underground parkade	\$119
West (Lot 10)	Mixed: patient/visitor and staff/physician	280	Underground heated parkade	\$154
North (Lot 6)	Mixed: patient/visitor and staff/physician	1400	Parkade	\$119
East (Lot 8a)	Staff/physician only	250	Surface Lot (energized)	\$95
Lot 8	Staff/physician only	1150	Parkade	\$119
Lot 4	Staff/physician only	65	Surface Lot (energized)	\$95
Lot 9	Staff/physician only	20	Surface Lot (energized)	\$95

## Phase 3 of FMC's Parking Project Involves Three Main Things:

1. Opening the Central Parking Lot which replaces Lot 1 (Fall of 2018)
2. Reassigning patient and visitor parking across the FMC Site
3. Assignment and re-assignment of staff and physician parking across the FMC site

Staff and physician assignment involves bringing back approximately 2300 parkers on site for their longer term parking and will also involve some reassignment of staff and physicians who are currently still parking on site.

The Medical Staff Association at FMC, capably lead by Dr. Linda Mrkonjic (2016), Dr. Joel Fox (2017), and Dr. Trevor Chan (2018), has been providing invaluable advice as we execute this project. In addition to this, we are inviting all FMC physicians with parking (either on-site or at one of the two off-site lots) to participate in a survey regarding your advice and preferences. This survey should have appeared in your email inbox. If you haven't seen it and would like to participate, or if you have comments or feedback, please drop me a line at [peter.jamieson@ahs.ca](mailto:peter.jamieson@ahs.ca)



**Peter Jamieson, MD**  
 Medical Director FMC  
 Calgary, Alberta

# We Need You

We have an awesome opportunity for you! Vital Signs exists to represent and advocate on matters pertinent to medical staff and patient care at the zone and provincial levels. We do this by publishing articles written by medical professionals that have a knowledge and a caring for their profession and their patients. Professionals like you.

## Why Write?

Whether you have contributed countless articles or you merely enjoy reading Vital Signs, thank you for your time and attention.

With that said, we've got big plans for Vital Signs and we hope you'll join us on our journey. Certainly continue to keep reading Vital Signs but we encourage you to do more. Tweet about the things you read and interest you, share links to our online version with friends and colleagues and write for Vital Signs. The doctors who have contributed always find it a rewarding experience.

*Here's why:<sup>1</sup>*

### Writing Makes You a Better Thinker

In an effort to create content that is succinct, reveals new ways to look at common things, or applies simple solutions to seemingly complex problems, you might think about healthcare differently.

### Writing Makes You a Better Listener

As you write more you begin to listen in different way. Consider new ideas and they can be developed into a story or article.

### Writing Makes You a Better Speaker

Your written work will produce some of your best presentation material.

### Writing Keeps You Learning

The discipline required to create even somewhat interesting content forces you to study and contemplate your subject matter.

### Writing Allows You to Create Bigger Ideas

Producing content over time affords you the opportunity to create larger editorial ideas that can be reshaped and repurposed for other settings.

For editorial guidelines, please visit: <http://albertazmsa.com/vital-signs-submissions/>

## REFERENCE

<sup>1</sup> <https://www.ducttapemarketing.com/benefits-of-writing/>

## SAVE THE DATE

### The Rockyview General Hospital Medical Staff Association Annual General Meeting

Tuesday, June 5, 2018  
from 6:00 to 9:00 p.m.

Railway Orientation Centre at  
Heritage Park's Town Square  
1900 Heritage Drive SW, Calgary

Buffet Dinner/Cash Bar

The Rockyview General Hospital Physician  
Recognition Awards will be presented

RGH MSA Members: 2 tickets to the AGM  
are included in your membership & you are  
invited to attend with a partner

Non RGH MSA Members: \$100 per ticket

Seating is limited! The deadline to  
RSVP is May 15, 2018

RSVP to Nicole:  
[zmsaadmin@albertadoctors.org](mailto:zmsaadmin@albertadoctors.org)  
403-205-2086



Dr. Charlene Lyndon

# Invite Two Patients

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