



[Dr. Yaseen Arabi as a Visiting Professor to Mayo Clinic, the University of Toronto and the University of Ottawa](#)



Dr. Yaseen Arabi has been invited as a visiting professor to Mayo Clinic in Rochester, MN (USA) on May 20, 2010, the University of Toronto on May 25, 2010 and the University of Ottawa on May 28, 2010. This Visiting Professor Program includes several activities. Dr. Arabi will give the following presentations:

- 1) **Enteral Feeding: Less is More:** This lecture addresses the controversies regarding the appropriate caloric intake in the critically ill patients and the recent evidence in this area including studies conducted at King Abdulaziz Medical City.
- 2) **What Constitutes Evidence?** While RCTs are considered the “gold standard” for evidence, their applicability to complex interventions, common in the ICU and in patient safety has been questioned. The talk addresses this issue and gives examples where complex interventions in complex settings may have to be adopted in the absence of “level I” evidence.

[PRECISE Phase III: Dr. Lauralyn McIntyre in Riyadh June 7-9, 2010](#)

PRECISE is a multi-centre randomized controlled trial conducted in 25 Canadian academic centers as well as in Kingdom of Saudi Arabia.

The two treatment arms will compare 5% albumin versus normal saline in early suspected septic shock.

The Principal Investigator is Dr. Lauralyn McIntyre. The Primary Investigators at KAMC are: Dr. Yaseen Arabi and Dr. Saad Al-Qahtani. The Co-Investigators: Dr. Shmylan Al-Harbi, Dr. Sajid Hussain, Dr. Seema Noushad and Lian-Fan-Fong. KAMC will be coordinating this study in Saudi Arabia.

Dr. Yaseen Arabi will be attending the investigator meeting that will be held on Friday, May 28, 2010 in Montreal, Quebec, Canada.

Dr. Lauralyn McIntyre will be visiting Riyadh June 7-9, 2010. Full program of her visit will be distributed later.

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[KAMC has enrolled 19 patients in DECRA Trial](#)

DECRA is a multicenter, prospective randomized controlled trial in patients with severe Traumatic Brain Injury and refractory Intracranial Hypertension, comparing early Decompressive Craniectomy with the best current management. It was completed when KAMC recruited the last two patients in April 2010. The trial has reached its target of 155 patients.



KAMC-ICU is the only recruiting center in the Middle East and the second top recruiter among all centers.

[PROTECT Study, 296 more patients to go ...](#)

PROTECT had its best recruiting month March 2010 with 112 patients randomized.



So far, 3354 patients has been enrolled with only 296 more patients to go. The planned conclusion is approximately 3650.

[The III Mechanical Ventilation Study](#)

This is a new observational study that will evaluate the characteristics and outcomes of critically ill patients requiring mechanical ventilation for > 12 hrs.

The study started on April 1st 2010. Patients are followed from initiation of mechanical ventilation until either the end of mechanical ventilation, or death or day 28.

The Principal Investigator is Dr. Andres Esteban. KAMC will be coordinating this study in Saudi Arabia.



[An Update on the Permissive Underfeeding Trial Initiated by Adult ICU @ KAMC](#)

The recruitment for our new trial entitled “**The Impact of Permissive Underfeeding versus Target Enteral Feeding on Morbidity and Mortality in Adult Critically Ill Patients**” is going on with enthusiasm. 180 patients were screened out of whom 66 were eligible and 45 enrolled.

No protocol violation so far. More than 95% follow-up on laboratory investigations.

Other International and local centers are working on IRB approval. Two more centers Alfred Hospital from Australia and Mount Sinai hospital from Canada are expected to join.

[A study from KAMC-ICU was accepted for presentation at the ACCP](#)

A study titled “**Association between Statin Therapy and the Outcome of Critically Ill Patients**”. Shmylan Al-Harbi, Hani Tamim and Yaseen Arabi, has been presented at the American College of Clinical Pharmacy (ACCP) Spring Practice and Research Forum. The ACCP Spring Practice and Research Forum took place April 23-27, 2010, at the Charlotte Convention Center in Charlotte, North Carolina, USA.



Critical Care Research Meeting

Wednesdays 2:00-4:00 PM in the ICU2 conference room

We continue to hold our weekly research meetings. These meetings are used to follow up on ongoing research, discuss new research projects, review abstracts and manuscripts and present tutorials on clinical research. Our critical care fellows are expected to attend and actively participate in the departmental weekly research meetings. The following table includes a list of the proposed topics for presentation by our fellows, research coordinators and interested staff. The dates of these presentations will be set soon.

Designing data collection forms	Dr. Seema
Cohort studies	Dr. Abdulaziz
Clinical Trials	Dr. Alawi
The Institutional Review Board And how it works at KAMC	Dr. Shaila
An Overview of GCP	Dr. Seema
Measures of effects: risks, odds ratio and hazard ratios.	Dr. Alawi
An Overview of the Saudi FDA	Dr. Shmylan
Formatting tables in Microsoft Word and drawing figures on Excel	Dr. Shaila Dr. Seema
The Chi Square test with demonstration on how to perform the test using SPSS	Dr. Abdulaziz
The student test with demonstration on how to perform the test using SPSS	Dr. Musa
Non-Parametric tests	Dr. Abdulaziz
How to write a manuscript	Dr. Alawi
How to submit a manuscript	Dr. Seema
How to reply to reviewers	Dr. Asgar

The Oscillation for ARDS Treated Early (OSCILLATE) Trial Study



The primary objective for the OSCILLATE trial is to determine the effects of high frequency oscillator versus conventional ventilation on mortality in adults with severe ARDS. This was preceded by a pilot trial which assessed the feasibility of the ventilation strategies and study procedures. Eleven ICUs participated in the pilot trial (10 in Canada and 1 in Saudi Arabia (King Fahad National Guard). Recruitment finished July 2008 for the pilot trial. King Fahad National Guard ICU recruited 15 patients out of 94 . The Principal Investigators are Dr. Niall Ferguson and Dr. Maureen Meade.

The full multinational trial has started recruitment in July 2009 and will continue for 5 years.

The latest News on the Educational Research visit from Australia

In Feb 2010 the DECRA project manager Ms. Lynne Murray and Alfred hospital ICU research manager Ms. Shirley Vallance visited KAMC for sight monitoring. During their week long visit, they had a complete audit of all enrolled patients. KAMC DECRA team got a very positive feedback from the visiting team. In addition, there were several presentations related to research during the visit. Overall, the visit was helpful for KAMC ICU research team. Like all, we are also desperately waiting for the results of this landmark study.



Publications

- 1) **“Nursing Workload and Perception about Intensive Insulin Therapy in Critically Ill Adult Patients”**. Samarkandy SJ, Al-Dorzi HM, Tamim HM, Arabi YM. Saudi Med J. 2010 Mar; 31(3):331-2.

Accepted Manuscript

- 1) **“Near-Target Caloric Intake in Critically Ill Medical - Surgical Patients is Associated with Adverse Outcomes”**. Yaseen M. Arabi, MD; Samir H. Haddad; Hani M. Tamim, PhD; Asgar H. Rishu, MBBS; Maram H. Sakkijah, RD; Salim H. Kahoul, RN; Riette J. Britts, RN.
- 2) **“Glycaemic fluctuation predicts mortality in critically ill patients”**. Al-Dorzi H.M, Tamim H.M, Arabi Y.M. Accepted for publication in Anaesth Intensive Care (July 2010).

Accepted Book Chapter

- 1) **“Noninvasive Positive Pressure Ventilation in the Postextubation Period”**. Al-Dorzi H.M. and Arabi Y.M. Will be published as a book chapter. A.M. Esquinas (ed.), Noninvasive Mechanical Ventilation, DOI: 10.1007/978-3-642-11365-9_4, © Springer-Verlag Berlin Heidelberg 2010.

ATS 2010

The American Thoracic Society (ATS) conference will be held in New Orleans, Louisiana from May 15 to 29, 2010. We have 13 accepted abstracts that will be presented as posters in the meeting. We encourage all ICU staff to participate in clinical research and start preparing for next year's meetings.

Fellowship Research Curriculum

The fellowship program of the Intensive Care Department at King Abdulaziz Medical City aims to develop highly skilled physicians in the management of critically ill patients. Hence, critical care fellows are expected to deeply understand the medical literature related to Intensive Care and develop the necessary skills for becoming clinical investigators. To achieve these goals, fellows should attend and actively participate in the departmental weekly research meetings. In addition, fellows are strongly encouraged to develop individual clinical research projects or to participate in any of the department's ongoing clinical research projects. They will receive guidance in the development and implementation of clinical research projects. The available research databases represent an opportunity that they can use to finish their research projects. Fellows are expected to develop at least one clinical research proposal and write the protocol according to the standard KAMC format. This will be presented and reviewed at the ICU research meetings. They are also expected to present at least one research abstract at an international meeting and complete at least one research project, including the manuscript, by the end of training. They are also encouraged to write interesting case reports and case series.



The Saudi Critical Care Society (SCCS) Conference in Jeddah.. Latest News

The Saudi Critical Care Society (SCCS) conference was held in Jeddah from the 27th to the 29th of April, 2010. Dr. Ahmed Al-Jabbary (chairman) and Dr. Yaseen Arabi (co-chairman) chaired the scientific committee. The conference was an opportunity to present some of our department's research projects: Dr. Arabi presented the results of the VTE study done in our ICU; Dr. Qahtani presented results of the study related to critical care response team (CCRT); Dr. Al-Dorzi presented on CPOE and intra-abdominal hypertension in cirrhotic patients. Dr. Yaseen Arabi and Dr. Al-Dorzi won two prizes on the posters titled as:

1. Analysis of Incidents Reports in a Tertiary Care Center.
2. Is Procalcitonin a Marker of Adrenal Insufficiency in Cirrhotic Patients with Septic Shock?

The next meeting will be held in Riyadh in April 2011 and we expect that our fellows present their research in the conference.

Pro/Con Debate

The first critical care pro/ con debate between KAMC and University of Toronto was carried on March 1st, 2010. Dr. Othman Solaiman from U of T presented a case with subarachnoid hemorrhage and spontaneously hyperventilating and debated the institution of sedation to control PCO₂ vs. leaving the patient without sedation for frequent neurologic assessment. The manuscript of this debate will be considered for publication in Critical Care. We have submitted a topic for the next debate and await the approval from the editor of Critical Care. The next pro/con debate is expected to happen in June 2010.

Erythropoietin in Traumatic Brain Injury (EPO-TBI)

This is a prospective, multi-center, double blind, randomized placebo-controlled phase III trial of Erythropoietin (EPO) in ICU patient with Traumatic Brain Injury (TBI) conducted in 18 sites in ANZ (Australia and New Zealand) Intensive Care Research Center, as well as Kingdom of Saudi Arabia. The Chief Investigator is Professor Rinaldo Bellomo. The Principal Investigator at KAMC is Dr. Samir Haddad. The Co- Investigators at KAMC are: Dr. Yaseen Arabi, Dr. Ahmed Al-Jabbary, Dr. Basel Al-Raiy, Dr. Shmylan Al-Harbi. The study will begin on May 2010 for the duration of 3.5 years. This study is endorsed by the Australia and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG).

Question of this Issue

What is heterogeneity in a meta-analysis?

A meta-analysis estimates a combined effect from a group of similar studies. Clinical baseline heterogeneity between patients from different studies

In meta-analysis, there are 3 principal sources of heterogeneity:

1. Variability in the participants, interventions and outcomes studied may be described as clinical heterogeneity.
2. Variability in study design and risk of bias may be described as methodological heterogeneity).
3. Variability in the intervention effects being evaluated in the different studies is known as statistical heterogeneity. This can be a consequence of clinical and/or methodological diversity, among the studies.

The presence of statistical heterogeneity can be determined in two main ways:

a. By looking at a forest plot to see how well the confidence intervals overlap. If the confidence intervals of two studies don't overlap at all, there is likely to be more variation between the study results.

b. By performing a statistical test, known as χ^2 ("chi-squared") or Q test. A p -value <0.05 indicates evidence of significant heterogeneity. The Q test has low power as a comprehensive test of heterogeneity especially when the number of studies is small, i.e. most meta-analyses. It has too much power as a test of heterogeneity if the number of studies is large.

c. By performing I^2 statistic. The I^2 statistic describes the percentage of variation across studies that is due to heterogeneity rather than chance.

$I^2 = 100\% \times (Q - df)/Q$. Unlike Q, it does not inherently depend upon the number of studies considered. An I^2 value greater than 50% indicates evidence of substantial heterogeneity.

d. The L'Abbé plot can be used to explore the inconsistency of studies visually.

