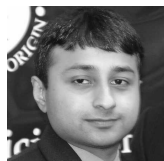


## Nanotechnology is the Future of Emergency & Trauma Medicine

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Nanomedicine is defined as the application of molecular nanotechnology (MNT) to medicine. Currently nanomedicine is rapidly developing field of science focusing on construction of ultra small devices measuring a few nanometers, i.e. one millionths of a meter. These are also called nanorobots.

The aim of MNT is to work at an atomic / molecular level in a very definite and controlled manner. These Nano methodologies would enable performance of programmed biological tasks at cellular level. The tasks could involve repairing tissues, combating cancer cells and viruses, and maybe even reversing the aging process or preventing early apoptosis. Nanotechnology promises to take mankind ahead via pathways in which programmed nanoparticles can travel to the cellular level and repair the traumatized cells without pain or disfigurement. It is anticipated that the next two decades will be the era of boom for Nanomedicine.

The INDO-US Emergency and Trauma Collaborative supports the National Institutes of Health Roadmap to establish Nanotechnology Centers of Excellence across Research Universities in the United States thus promoting the global development of this science. It is with this vision that INDUS will be naming its experts on the Nanomedicine Emergency And Trauma Group (**NEAT-GROUP**). This group will focus on developing nanotechnology via collaboration and partnership in India and will comprise of scientists from Basic Science, Engineering, Laboratory Medicine and Clinical Disciplines. These experts will work closely with the National Cooperative for Research on Emergencies, Trauma and Shock (**CREST**) which is a community of researchers working towards promoting translational acute care science in India. The Journal of Emergencies Trauma and Shock (**JETS**) has now gotten its own Sectional Editor for Nanomedicine. JETS is the official publication of INDUS and is a global leader in synergizing basic Science Clinical Medicine and Public Health in acute care. ([www.wisageek.com](http://www.wisageek.com))

## CLINICAL RESEARCH METHODS

USF-India - NIH Fogarty

International Center Program on Research Training  
11<sup>th</sup> -14<sup>th</sup> February 2009, Ahmadabad , Gujarat , India



The INDO-US Emergency and Trauma Collaborative partnered Training School on "CLINICAL RESEARCH METHODS" was held from 11<sup>th</sup> -14<sup>th</sup> February 2009, at Hotel Pride, Ahmedabad, Gujarat . It was joint effort of the University of South Florida (USF), Indu Research Health Foundation (IRHF), Vedanta Hospital and Vadodara Medical College . It was funded by the HIV/AIDS Research Training program grant acquired by USF via NIH, USA

Dr Shyam Mohapatra was the Director for the Course. He is an Endowed Professor of Medicine at the University of South Florida . He was leading a group of training faculty from the University of South Florida . These Faculties were funded by the National Institutes of Health USA . 25 Researchers from various specialties participated in the training sessions. The course taught key fundamentals of research which included writing grants, designing studies, innovating ideas and publishing research.

In this era of Evidence Based Medicine research is important for progress and practice. India has emerged as a Clinical Research hub. Dr Shyam Mohapatra gave important lessons on how to differentiate and how one should remain away from turning clinical trials in to money making business. Bioethics training was a key session in this training program.

The workshop had lectures by distinguished and invited faculties from USA and Baroda University who shared their knowledge on clinical research and its future applications to the field of medicine.

The overall curriculum covered areas of research design, clinical biostatistics, and interpretation of the statistical analysis, research questioning, clinical epidemiology, behavioral research, bioethical issues and Practical applications. The last day was day of "Evidence Based Medicine". It was very informative when it came to knowing how to apply for the local grants and what one should do to get funds and financial help for the research project. All the delegates were given free registrations and a book called " Designing Clinical Research (3<sup>rd</sup> edition) written by Stephen B. Hulley et al. (Published by Lippincott Williams & Wilkins) along with the lecture notes by each speakers in form of a CD and print outs.

This workshop was a part of a series of workshops held by the INDO-US Emergency and Trauma Collaborative under the aegis of the Emergency and Trauma Education Center for Health EM-TECH. EM-TECH was established in 2007 as a center for providing standardized innovative continuing medical education in research and medicine to academic faculties in India via a US based partnership. Over the last few years over 3000 hours of training have been accomplished by US and India faculty making contact with over 7000 delegates.

Overall the training program was great learning process and "Mental Feast" for all the delegates.



- Dr. TARLIKA,

ACET Councillor, Ahmedabad, Gujarat

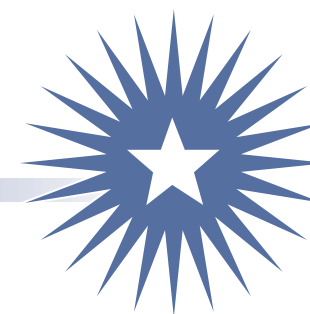


## Trauma & Emergency

# TEAMS

Academic Medicine Sentinel

"Proclaiming and Promoting Academic Leadership"



## From the Desk of Editor



Dear Colleagues

TEAMS has completed 1 year of infancy with all your blessings and support

I could see the vision of INDO US collaboration of establishing the Academic Science of Emergency Medicine getting shape in our country. The Medical Council of India has recognized the need of this discipline as a separate specialty. We have initiated the Faculty Development Programme (FDP) as the initial step of creating the academic discipline in association with SUNY Downstate, USA.

I take pride as a Secretary General of 5<sup>th</sup> INDUSEM 2009 in inviting every academic institution across the country to be a partner in this Level 1 Academic Congress on Trauma, Emergency & Disaster Medicine. The programme is scheduled as pre conference which incorporates Nursing congress, Simulation school, Disaster drill by the National Disaster Management Authority (NDMA) and the Congress with lectures, didactics, symposium and skill schools. The 4<sup>th</sup> ACET meet shall also take place during the conference and brainstorm various issues like FDP, approach MCI, Curriculum modules, Leadership skills, Research in Emergency Medicine.

The Deans, Academic leaders of every institution shall take this opportunity and participate, nominate leaders in the field of Emergency Medicine in their Institutions, encourage students, residents, faculties, nurses to participate in this congress which imbibes knowledge to develop this science of Emergency Medicine in their parent Institution.

Please feel free to contact us in the following email id :  
indusem2009@yahoo.com / docsskumar@yahoo.com

We the host team from PSG Institute of Medical Science & research, Coimbatore are eagerly waiting to serve you with an extraordinary scientific extravaganza mixed with feast, fun and fantastic hospitality.

Welcome to Coimbatore.

JAIHIND.

**SUNDARAKUMAR**

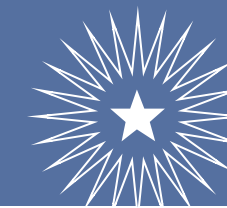
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## Teamwork- A New Way of Working Together In Emergency Medicine

Imagine coming on duty one morning to the hospital. You walk into the emergency room where dozens of people are scurrying around, urgently searching for supplies and setting up equipment. Family members are crying and distressed. There are other visitors who are standing around, curious as to what is going on. In the center of the chaos, there is a young child on a stretcher who is cyanotic and not breathing. A team of doctors and nurses are hovering over this patient. Someone is shouting for an endotracheal tube- you assume he is a resident but you are not certain. Another staff member is doing compressions-incorrectly. There is numerous staff but the earnest desire and effort of each to help and save the life of this child does not seem to be working. The tension is palpable. This scenario is one that is all too familiar in emergency rooms. The accident and emergency department is very stressful-one that is noisy, chaotic, fast-paced and ever-changing. At no time do patients rely on us more than when a life-threatening situation is at hand. Patients assume that we have the necessary training, skills and how to work as a team. Yet if we are truthful, we know that teamwork is not something we are formally trained in school.. Even with our best intentions, failures in communication and coordination get in the way of us working together as one. Each member of a team plays an important part and can contribute to safe patient care but we do not effectively or consistently utilize this synergy. The collaboration of the attending physicians, specialists, residents and nurses, working in the context of a unified team, can yield better patient outcomes and satisfaction than if each was to work his or her task singularly. Evidence shows that teamwork makes a difference in reducing errors, length of stay; and infection rates. It sometimes makes a difference between whether a patient dies or lives.

The application of teamwork science in healthcare is relatively new. Much of what we have come to understand about the importance of teamwork has been drawn from the airline industry. Both the airlines and emergency medicine have structural and systemic similarities. Inherent in both are complexity, training intensity, time constraint, and scrutiny and team member interdependence. Both the pilot and physician assume the role of leader, the 'captain of the ship', and yet neither can do their jobs alone. They each need the assistance of their team to carry out their mission. The most significant learning from the airline industry has been that teamwork is critical. To prevent fatal crashes, or in our case, negative patient outcome, teamwork and communication training and practice are important and necessary. This is because of evidence revealing that the majority of airplane crashes as well as medical errors are rooted in communication failures. The Institute of Medicine released a report in 1999 in the U.S. estimating some 100,000 patients to die in hospitals, largely due to human communication errors. This report has launched a huge

patient safety movement in the U.S. That focuses great effort in improving teamwork and communication in healthcare.

'Team' is defined as two or more people working independently and adaptively toward a shared goal. That goal in emergency medicine is providing safe patient care. As people work together in the emergency room, the difference in whether each person works as a singular entity (group) or as one unified unit (team) boils down to a set of attitudes, behaviors and actions. What then are those behaviors and actions that promote good teamwork? What do good, effective teams working in emergency rooms do that not so good, disorganized teams fail to do?



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**Joint Conferences**  
Emergency Nursing Conference (ENCON 2009)  
Disaster Conference for India (DCON-INDIA)  
Paramedic Parishad of India (PPI 2009)  
INDO-US Leadership Meetings  
INDO-US Career Conference  
EMARCS 2009  
**Coimbatore, India**  
30<sup>th</sup> October, 31<sup>st</sup> October & 1<sup>st</sup> November 2009  
PSG Institute of Medical Sciences & Research, Coimbatore, India  
**Coimbatore Academic Pre-Summit**  
28<sup>th</sup> October & 29<sup>th</sup> October 2009  
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In observing countless hours of teams working in the emergency rooms and conducting research on how teams behave and work, the following key actions and behaviors have been noted to be the key differentiators of effective teams.

### 1. Clarity of team member's role(s).

There is a clear leader and every team member has a clearly assigned role which has equal importance in the team in providing patient care

### 2. Compliance and support of the team code of conduct.

Effective teams support a team climate that is positive, non-blaming and mutually accountable. Every team member is accountable for his/her attitudes, actions and behavior. Physician as leader of the team invites input and ideas from team members.

### 3. Clear communicate of expectations and goals.

Good teams ensure that everyone clearly understand the patient care goals and what is expected of them. The physician consistently communicates his/her 'mental model' or what he/she thinks is going on with the team members.

### 4. Active participation in care by each team member: (Staying ahead, being proactive, being prepared, seeking and providing input & updates and helping identify problems).

### 5. Practice of safe communication techniques ('check-backs', call-out", "speak- up", "hand-off, keeping noise down.)

Good teams practice safe and clear communication and actively work to avoid errors of communication. Verbal orders are repeated back (check-back) to ensure correct understanding. Critical information is shared with all team members out loud (call-out)

### 6. Practicing vigilance (Keeping situational awareness of patients and conditions)

Effective teams actively work to maintain awareness of patients and their conditions. They help identify potential problems that can negatively impact the patient and inform the physician. This is done by checking and rounding on the patients regularly.

### 7. Sharing the workload (helping one another)

During times when the workload is extremely heavy and the patient volume and acuity is high, so is the potential for the

team to make an error. To mitigate this risk for error, regardless of role, everyone commits to helping each other to avoid error.

### 8. Including patient and family in care

Good team recognizes the importance of patients and family members in their own care.

### 9. Resolving conflict

Effective teams are trained to confront problems with one another respectfully and directly and to resolve conflict by framing the dialogue by focusing on the best interest of the patient and team.

### 10. Engaging in team improvement processes (huddles, rounds, debriefs)

Good teams actively get together and work to communicate as a team, striving always to improve the way in which they work and communicate with one another. Each team member's input is valued.

Every day, 24/7, we are thrown into the emergency room, to work side by side among colleagues, for some whom we do not know, with different roles, training and disciplines. As we come to understand the importance of communication and teamwork we can begin to see the need for us to re-evaluate the way we are currently working with one another and providing care. We can see the value and new opportunities in doing things a better way. The time has come to rethink and reexamine our own team and teamwork processes. It is time to help educate and train our doctors and nurses at large on teamwork attitudes, behaviors and techniques. It is time to unleash the incredible power and synergy that lie dormant that can be created by each and every team member as part of one united team, Teamwork- it is an age-old concept not necessarily a new way of working together, but the right way to provide care in emergency medicine.

- Theresa Tavernero RN, CEN, MBA, MHA  
TEAM, HEALTH, USA

