

## **The Efficacy of Orthopedic Patient Referrals by Triage Nurse to X- Rays on Quality of Care, Waiting Times & Self Discharges**

Tchia Molcho Falkenberg Luft, RN, BA<sup>1</sup>, Dr. Freda DeKeyser-Ganz, PhD<sup>2</sup>,  
Dr. Jacob Or, MD<sup>3</sup>

<sup>1</sup> ED, Hebrew University, Kaplan Medical Center. <sup>2</sup> School of Nursing, The Master Program, Hadassah Hebrew University. <sup>3</sup> ED Director of Medicine Department, Tel Aviv University, Sheba Medical Center

**Background:** In Emergency Departments in Israel, the orthopedist assesses the patient twice, before and after the patient was sent to x-ray. Previous studies in western countries have shown that the triage nurse who refers patients to x-ray speeds up the assessment and treatment processes without affecting quality while increasing patient satisfaction (Chudleigh, 2004). This process was not studied in Israel.

**Objective:** The purpose of this study was to determine whether the process of nurse triage (nurses as opposed to physicians initially assessing and sending patients to x-ray) would lead to decreased ER wait time, decrease numbers of patients leaving against medical advice (AMA), without impacting on quality of care.

**Methods:** This was a quasi-experimental study where differences between those who were treated according to the traditional process were compared to those treated using the new nurse-triage process. Each method was studied for 3 months. The convenience sample included 1500 adult patients (750 in each group) with minor limb injuries distal to the elbow and knee. Ethical approval was obtained.

**Results:** No statistically significant differences were found between the demographic variables and location of injury. Findings indicated a 20% decrease in ER wait time with the new nurse-triage process. No statistically significant differences were found in the numbers of patients leaving AMA. The new process improved quality of care as nurses sent 17% fewer patients to x-ray as opposed to physicians while 97% of x-ray findings of patients that the triage nurse decided not to send to x-ray, but were sent by the orthopedist, were found not to have a pathology. High risk and high patient load explained the 3% of pathological findings.

**Conclusion:** The findings of this study reflect the influence of the triage nurse on decreased waiting times with improvement in the quality of care.

## **Drug Facilitated Sexual Assault**

Dr. Lisa Amir, MD, MPH

*Unit of Emergency Medicine, Schneider Children's Medical Center*

There have been an increasing number of reports in the press of cases of drug facilitated sexual assault (DFSA). Although the press has emphasized the role of flunitrazepam (Rohypnol™), the so-called “date rape drug”, gamma-hydroxybutyrate (GHB), and ketamine, alcohol remains the most commonly used drug to facilitate rape. Collection of forensic evidence to prove DFSA can be problematic due to the delayed presentation of the victims and endogenous levels of GHB in the urine. Hair segmentation analysis is a new technique that allows identification of exogenous drugs up to one month after ingestion. Implementation of preventative measures such as not drinking from open containers, avoiding alcohol intoxication in public settings, and monitoring for signs of expected intoxication among friends should decrease the occurrence of DFSA.

## **Hagigat- a New Illicit Form of Khat**

Dr. Yedidia Bentur, Dr. A Bloom-Krasik

*Israel Poison Information Center, Rambam Health Care Campus, Faculty of Medicine,  
Technion, Haifa*

Background: Khat (*Catha edulis*) leaves have been chewed for centuries for their stimulant properties. Starting in September 2004 calls concerning exposure to capsules of Hagigat began reaching the Israel Poison Information Center (IPIC) and the number of calls increased progressively thereafter. The connotation with Khat (Hagiga – party, gat – Khat) suggested the presence of *Catha edulis* alkaloids or related substances in these capsules. This assumption was confirmed by laboratory demonstration of cathinone, the active principle of *Catha edulis*. A steep decrease in the number of Hagigat calls to the IPIC was observed after outlawing the substance and initiation of police raids with confiscation of large amounts of Hagigat capsules.

Objective: To report the consequences of illicit exposure to cathinone.

Methods: Prospective observational study of calls to the IPIC regarding exposure to Hagigat between September and December, 2004. Demographic and clinical data were abstracted and subjected to descriptive analysis.

Results: Thirty consecutive patients were recorded. Age range was 16 – 54 years and male/female ratio was 20/10. Twenty calls were from hospital physicians, 6 from community physicians and 4 from the patients themselves. The amount ingested ranged between ½ to 6 capsules; the latter exposure took place over 6 hours. The time elapsed from exposure to the appearance initial symptoms was as short as 40 minutes and up to several hours. The clinical manifestations included headache (53.5%) lasting up to 7 days, vomiting (36.6%), changes in heart rate (36.6%), nausea (20%), hypertension (23.3%), abdominal pain (23.3%), chest pain (13.3%), myocardial ischemia (10%), perspiration (10%), myalgia (16.6%) and pulmonary edema (3.3%). One patient 28 year old female (3.3%) suffered intracerebral hemorrhage resulting in hemiplegia. All patients were symptomatic; 16.6% and 13.3% had moderate and severe poisoning, respectively. No fatalities were observed. All patients required supportive therapy including IV fluids, analgesics, antiemetics and sedatives. One patient was mechanically ventilated (16 year old male with myocardial ischemia and pulmonary edema).

Conclusions: Exposure to illicitly synthesized cathinone is associated with serious cardiovascular and neurological toxicity and possibly also prolonged disability even in young subjects. Substances of natural origin can be unsafe especially if concentrated in the process of synthesis.

## **Alcoholic Versus Non-Alcoholic Skin Swab for Alcohol Levels Blood Sampling**

Dr. Yoram Ben-Yehuda, MD, Dr. Karin Cezar, MD

*Unit of Pediatric Emergency Medicine, The E. wolfson Medical Center*

Road traffic accidents are one of the major causes of mortality and morbidity in the world. Drunk driving is one of the most common causes of serious road traffic accidents. One way to prevent an illegal behavior is enforcement, i.e. punishment.

Common practice mandate the use of none alcoholic skin swab for skin cleansing and preparation for blood sampling in order to test for blood alcohol levels.

This test is especially necessary for forensic purposes.

In order for the test results to be admissible in court the use of non-alcoholic skin swab is mandatory. The theory is that alcohol containing skin cleansing solution may either contaminate the sample, or the alcohol may be absorbed by the skin and will cause increase in alcohol levels.

The common skin swab for IV line or common blood sampling is Isopropyl Alcohol Skin Preparation or other alcohol containing solution such as Alcoxidine, thus using non-alcoholic skin swab is a deviation from routine.

The aim of our study is to show that Alcohol containing solution for Skin Preparation does not affect blood alcohol levels, and that this deviation from the usual Alcohol Skin Preparation is not necessary.

### **Methods:**

After obtaining informed consent from the parents, skin preparation were achieved by a colored solution. There were two solutions A and B. One of them was polydin tincture – non-alcoholic solution, and the second one was polydin solution – containing alcohol solution.

Randomization was achieved by the days of the week (odd days one solution, even days the other solution, and alternating Saturdays). The medical and laboratory workers performing the test were blinded to the type of solution.

All blood samples were taken one hour after applying EMLA on the site of puncture and 20 second after cleaning the skin with one of the two solutions.

Inclusion criteria: Pediatric Emergency Medicine patients who did not ingested any alcohol or alcohol containing medication and their medical condition mandate blood tests.

Exclusion criteria: ingestion of alcohol or alcohol containing medication within the previous week or patients that do need any blood test for their ED workup.

### **Results:**

There were 26 patients included in the study aged from 5 months to 15 years. The male/female ratio was 16/1. The venous puncture site was the hand in 73% and brachial in 27% patients.

The skin was cleaned in 9 patients with the solution A and in 17 patients with the solution B. The mean alcohol level obtained after using the solution A was 2.2 mg% and 1.88 mg% with the solution B. The difference between the two groups was not significant.

### **Conclusions and importance of this study:**

The results of this preliminary study support the fact that there is no difference in blood alcohol level measurements after using an alcoholic versus a non alcoholic skin cleaning preparation, thus the need for a special skin preparation for blood alcohol samples is eliminated. This fact will reduce errors and legal rejection of test results.

## How Good is Compliance with Guidelines for D-Dimer Testing

Dr. Ruth Stalnikowicz, MD, Dr. Shaden Salamae, MD

*Emergency Medicine Department, Hadassah University Hospital Mount Scopus*

**Background:** It is possible to exclude pulmonary embolism (PE) in low-risk Emergency Department (ED) patients with a combination of bedside clinical risk assessment and D-dimer assay with a high degree of confidence. One of the major problems is the accurate assessment of the pre-test probability of a patient to have a PE. Different clinical scoring systems and physician's judgement have been used to evaluate patients' probability of PE. The purpose of the present study was to evaluate the rationale for ordering D-Dimers in our ED.

**Methods:** Physicians were asked to fill-up a questionnaire for every patient with suspected PE and in which a D-Dimer test was ordered. The questionnaire included assessment of physician's pre-test probability of PE, pre-test probability of a normal D-dimer result (whether patients have other conditions that could lead to a positive result), results of V/P scan or CT pulmonary angiography if performed and results of the D-dimer test. We assumed that most of D-Dimer testing will be done in patients with a low clinical probability for PE according to the physician's own judgement. We also assessed retrospectively the clinical probability of PE by using the scoring system developed by *Kline et al* and the Canadian score developed by *Wells et al*.

**Results:** The group comprised 50 patients. 35 patients (70%) were assessed as having a low clinical probability for PE according to physicians' judgement; half of them had at least one criterion for increased risk for PE according to Kline's scoring and all of them scored less than 2 on the Canadian score (low probability for PE). Eight out of 35 patients had a positive D-Dimer test results and one of them had a PE. In one patient the pre-test probability was unknown and in 13 it was considered intermediate, matching Kline's scoring in all. Only 3/13 scored 3 on the Canadian score (intermediate probability for PE). Ten out of these 13 patients had a positive D-Dimer test but none of them had PE. One patient was considered to have a high probability for PE, his D-Dimer result was positive but his CT pulmonary angiography was negative. Only in half of the cases physicians thought there were not reasons for an abnormal D-Dimer result.

**Conclusions:** In this small group of patients 1) Compliance with suggested guidelines for D-Dimer testing in patients with suspected PE was relatively good: the majority of patients in whom a D-Dimer test was ordered had a low clinical probability for PE. 2) In patients with low clinical probability for PE according to the physician's judgement, other scoring systems did not affect the probability to have PE and 3) Owing to the small group of patients it is difficult to conclude if the possibility that a D-Dimer test could be abnormal for other reasons will influence the decision to order the test.

## **Electrocardiographic Interpretation of High Risk Syncope with Prolonged QT Segment among Emergency Department Physicians**

Dr. Aliza Noy, MD, Dr. Shlomo Matetsky, MD, Dr. Ariel Bentancur, MD

*Emergency Medicine Department, Sheeba hospital. Sackler School of Medicine, Tel Aviv University*

### **BACKGROUND**

The association between prolonged QT segment in a standard 12 lead electrocardiogram (ECG) and sudden death is well established, and the association between the length of the corrected QT (QTc) interval with several conditions such as certain medications, electrolyte disorders, ischemic heart disease, and inherent forms is also well known.

Syncope is a predominant presenting symptom of the arrhythmia induced by prolonged QT interval.

This study measured awareness and proficiency in measuring the QT interval of post syncope patients among physicians working in the emergency department.

### **METHODS**

In this prospective study, various groups of physicians working in the emergency department in our tertiary hospital, answered a questionnaire describing 5 different patients arriving to the emergency department with syncope with their respective 12 lead ECG

We aimed to measure three primary outcomes: Awareness of the relevance of QT interval in patients after syncope, the technical knowledge of how to measure the QT interval and calculate the QTc, and the knowledge of what value of QTc reflects an increased risk for negative cardiac outcome.

### **RESULTS**

Awareness of the relevance of QT measurement in post-syncope patients was low (28%), only 36% knew technically how to measure QTc interval with an ECG rule, and 68% knew its normal limit.

Among other findings we found that there is an inverse relationship to the seniority or specialization of the physician and his awareness to QT interval measurement.

We also found that the knowledge of the normal values of the QT segment and the QTc interval, was higher among interns than other more advanced trained physicians (100% vs. 52%  $p=0.026$ ), and significantly more females than males (50% vs. 0%,  $p=0.009$ ), used palm computer while reviewing the cases.

### **CONCLUSIONS**

The results suggest that even though prolonged QT segment and its relevance to syncope is common knowledge among "all" physicians, at all levels of training,

This knowledge is not being translated to practice, and further on going educational training is needed to remind us of this entity to better care of our post syncope patients

## **Cardiac Biochemical Markers After Cardioversion of Atrial Fibrillation or Flutter(AF/FI): Comparison Between Biphasic and Monophasic Defibrillators**

Aziz Darawshe, MD<sup>1</sup>, Michael Yussim, MD<sup>2</sup>, Batsheva Tzadok, MD<sup>1</sup>, Fuad Abdelhadi, MD<sup>1</sup>,  
Yisheyaho Kats, MD<sup>2</sup>

<sup>1</sup> *Emergency Department* <sup>2</sup> *Anesthesiology Department, Haemek Medical Center*

**Background:** Atrial fibrillation is the most frequently encountered sustained clinical arrhythmia. Since its introduction 3 decades ago, transthoracic electrical cardioversion has remained the most effective method for terminating AF. Transthoracic direct current shocks can cause myocardial injury. They also can cause elevations of different cardiac markers.

**Aim of the study:** To compare between monophasic and biphasic cardioversion of AF/FI in aspect of cardiac biochemical markers elevation.

**Methods:** All the patients(pts) who were candidates for elective or not- emergent(emergent cases were excluded) electrical cardioversion because of AF/FI were divided to two groups; In group I were included pts who underwent EC by biphasic defibrillator 100J and if needed 150J, and 200J; In group II were included pts who were treated by monophasic defibrillators 200J, 300J, and 360J if needed. CK, CK-MB, and Troponin T levels were measured at times 0, 6h, and 24h after the procedure.

**Results:** 52 pts were included in the study, 26 in each group, without statistically significant differences in the demographic and baseline clinical characteristics between the groups. Patients of both groups received a mean 1.3 and 1.38 shocks with median cumulative energy of 148 J and 320 J respectively, (range 100 to 450 J for group I, and 200 to 860 J for group II). After exclusion of pts with abnormal (high) baseline CK, CK-MB, and Troponin T levels, we compared between the levels of these markers, which revealed minimal elevations after the procedure with nonsignificant statistical difference between the groups.

**Conclusions:** We conclude that both monophasic and biphasic defibrillators are similar in the field of potentially causing some myocardial injury.

## Is Biphasic DC Shock More Effective than Monophasic in Conversion of Atrial Flutter

Aziz Darawshe, MD<sup>1</sup>, Alexander Feldman, MD<sup>1</sup>, Dante Antonelli, MD<sup>2</sup>,  
A Nahum Freedberg, MD<sup>2</sup>, Ludmila Chiporen, MD<sup>1</sup>, Tiberio Rosenfeld, MD<sup>2</sup>

<sup>1</sup> Emergency Department <sup>2</sup> Cardiology Department, Haemek Medical Center

**Background:** Transthoracic electrical cardioversion (ECV), traditionally using monophasic shocks, has an important role in the treatment of symptomatic atrial flutter (A.Fl.). Biphasic (B) shock waveform has been demonstrated to be more successful than monophasic (M) waveform for termination of ventricular and atrial fibrillation, but data about its use for ECV of Atrial Flutter is limited.

We performed prospective comparative study to investigate this point.

**Methods:** 44 consecutive patients (pts) admitted to Emergency Department (ED) due to symptomatic A. Fl. were divided to two groups of DC shocks (with Biphasic or Monophasic waveforms). ECV in both groups was started from 20J and in unsuccessful cases was increased gradually to 50J, 100J, 200J in the biphasic and to 360J in the monophasic waveform defibrillators.

**Baseline Characteristics:** There were 44 pts (30 pts in B group and 14 pts in M group), 72% males, mean age 63.8±13.8, mean BP on admission 137/85 and mean heart rate 106±33, mean weight 83.8±15, 36.4% of pts had history of ischemic heart disease (IHD), 27% with valvular disease, 63.6% with hypertension, 18.2% with diabetes mellitus, 9.1% with chronic lung disease, 4.5% with sick sinus syndrome and permanent pacemaker, 4.6% with history of ischemic stroke, 54.5% of pts were on antiarrhythmic therapy and 56.8% on therapy by b-blockers. In 70.4% it was typical flutter, in 22.7% persistent A. Fl. Mean left atrium size was 47.3±14 mm and mean LVEF was 54.6±15%. Chemical cardioversion was attempted in 36.4% of pts. There were no significant differences in baseline characteristics, except for more pts with history of IHD in B group (46% vs. 14.2%, p<0.038).

**Results:** DC shock with 20J was successful in 41.2% in B group and 40% in M group (p – NS). 50J shock was successful in 73.7% and 62.5% respectively (p-NS). 100J shock success rate was near 77% and 200J or more – in 100% in both groups. Number of shocks per patient was near 1.8 in both groups. Median energy for successful ECV was 50J in both groups. Sinus rhythm was restored successfully in all pts. Mean shock impedance was 82±10 ohm (p-NS). There was a case of transient apnea after ECV successfully treated by mask ventilation.

**Conclusions:** In our study population there were no significant differences in success rate of ECV of A. Fl. by Biphasic or Monophasic DC shock. We recommend 50J for starting ECV of Atrial Flutter regardless of waveform's type.

## **Intravenous Propafenone, Procainamide(Pronestyl) and Flecainide for Conversion of Recent Onset Atrial Fibrillation in the Emergency Department**

Aziz Darawshe, MD<sup>1</sup>, Alexander Feldman, MD<sup>1</sup>, A Nahum Freedberg, MD<sup>2</sup>,  
Dante Antonelli, MD<sup>2</sup>, Tiberio Rosenfeld, MD<sup>2</sup>

<sup>1</sup> *Emergency Medicine Department* <sup>2</sup> *Cardiology Department, Haemek Medical Center*

Because of high workload of the Emergency Department (ED) safe and rapid cardioversion of atrial fibrillation (AF) in ED setting is very important.

**Aim:** To compare effectiveness and safety of commonly used antiarrhythmic drugs for intravenous (IV) chemical cardioversion (CCV) of recent onset AF.

**Methods:** Patients (pts) admitted to ED due to symptomatic AF were randomized for Propafenone (Prop) (20 pts) or Placebo (Plac) (20 pts) intravenous treatment. Decision about Procainamide (Pron) (21 pts) or Flecainide (Flec)(20 pts) treatment was done by ED Physician on duty. Most of pts after unsuccessful CCV were treated by electrical cardioversion (ECV).

**Results:** 81 pts were included, 60% females, mean age 63±15 years, 67% with hypertension, 20% with diabetes mellitus, 53% with previous attacks of AF, 16% with valvular disease and 18% with lone AF. Mean LA size was 43 mm. There were no significant differences in baseline characteristics in the 4 groups, except for more women and less previous AF episodes in Flec group. Successful CCV occurred in 65% of pts in Prop. group, 52% in Pron. group, **75%** in Flec. group and 20% in Plac. group ( $p<0.002$ ). After ECV 95%, 100%, 100% and 95% of pts were in sinus rhythm respectively. Median time for CCV was 40 min, 25 min, **10 min** and 1.2 h respectively ( $p<0.039$ ). There were no significant differences in hospitalizations in all groups. Discharge from ED was significantly later in Plac. group (4.6 h vs. 3.4 h,  $p<0.036$ ). There were 5% of minor side effects in each group.

**Conclusions:** In our patients' population CCV in ED setting by IV Flecainide, Propafenone and Pronestyl were more effective and rapid than Placebo. It resulted in quicker discharge from ED. Flecainide IV was the most effective way to reach NSR.

## **Hypoalbuminemia and Elevated Ischemia Modified Albumin (IMA) in Stroke and Non-traumatic Brain Hemorrhage**

Dr. Ariel G Bentancur, MD, MHA<sup>1</sup>, Slava Gavendo, MSc<sup>2</sup>, Avraham Zakuto, DMD<sup>2</sup>,  
Prof. Ben-Ami Sela, PhD<sup>2</sup>, Dr. Mandel M, MD<sup>3</sup>

<sup>1</sup> *Emergency Medicine Department, Sheba Medical Center.* <sup>2</sup> *Emergency Medicine Department, The Chemical Pathology Institute.* <sup>3</sup> *Emergency Medicine Department, The Hematology Institute*

### **Background**

The quantitative assay for Ischemia Modified Albumin (IMA) recently introduced and reported to be sensitive and specific for early detection of myocardial ischemia was evaluated in the presence of acute brain injury.

### **Methods**

Blood samples from nine patients with acute ischemic cerebrovascular accident (CVA) and ten patients with acute intracranial bleeding presenting at the emergency department (ED) were tested for IMA using the albumin cobalt binding test (ACB Test) on the FARA sample cup (Roche Diagnostics) instrument. Results were compared to those from blood samples of 19 (age, and gender) matched healthy individuals.

### **Results**

Mean Albumin (Alb) in the CVA group and healthy controls was  $3.7 \pm 0.6$  g/L and  $4.4 \pm 0.3$  g/L respectively,  $p$  value 0.0346; in the intracranial bleeding group serum albumin was  $4.0 \pm 0.3$  g/L versus  $4.4 \pm 0.3$  g/L,  $p$ -value 0.0057.

Mean measured IMA-OD/Alb ratio in the CVA and healthy controls was  $0.3973 \pm 0.0867$  and  $0.2716 \pm 0.0364$  respectively,  $p$ -value 0.0011.

In the acute intracranial bleeding group and healthy controls mean IMA-OD/Alb ratio was  $0.3678 \pm 0.0699$  and  $0.2554 \pm 0.0261$  respectively,  $p$ -value 0.0003.

### **Conclusions**

In this study, significant hypoalbuminemia was present in the presence of acute brain injury. IMA was significantly elevated in ischemic CVA and intracranial brain injury at the ED. These results suggest the potential role of IMA in the diagnosis of non-traumatic acute brain injury.

## **The Impact of Operating a Triage System in the Emergency Medicine Department on Quality of Care, Efficiency and Satisfaction**

Orli Grinstein-Cohen, PhD candidate<sup>1,2</sup>, Prof. Dina Pilpel, PhD<sup>2</sup>, Dr. Asher Elhayany, MD<sup>3</sup>

<sup>1</sup> Faculty of Health Sciences, Recanati School for Community Health Professions <sup>2</sup> Faculty of Health Sciences, Department of Epidemiology and Health Services Evaluation <sup>3</sup> Faculty of Health Sciences, Department of Health Systems Management, Ben-Gurion University

**Background:** Large numbers visiting the Emergency Department (ED) and the legal requirement to accept everybody present a problem regarding quality of care.

**Purpose:** (1) To operate a patient-sorting method by a nurse referring only those needing hospital treatment to ED. The others are referred to a walk-in clinic near ED (Complete Triage System – CTS). (2) To evaluate CTS, by: correlation between triage nurse's and physician's diagnosis; patients' and staff's satisfaction with CTS; length of stay in ED; and use of experts.

**Method:** Comparisons before the system's operation (Stage I); after triage nurse's training and operation (Stage II); after the implementation of walk-in clinic (Stage III); and two years later (Stage IV).

**Main findings:** CTS was operated with the hospital management's consent, using protocols provided by Johns Hopkins Hospital. ED staff reported a willingness to adopt CTS and a decrease in verbal violence. Patient satisfaction increased from 40% to 80%, along with a decline in length of stay from 123 to 103 minutes, at stage I and III, respectively. Agreement between triage nurse and physician upon the patient's admission to ED regarding the severity of the patient's condition (emergent, urgent, non-urgent) increased from 57% at stage I to 68% at stage III. The Kappa indices at stages II, III, IV were: 0.19, 0.27, 0.24 ( $p < 0.01$ ).

**Conclusions:** This study showed the success of CTS in a general hospital, and the possibility of adopting this system in other Israeli hospitals. This is important in dealing with the problem of overcrowding and determining treatment priorities.

**Keywords:** Triage, emergency department, quality of care, satisfaction.

## **Plan to Reduce Violence Toward Nurses in Accident Emergency Department**

Eissa Hag, RN

*Emergency Room, Nazareth Hospital (E.M.M.S)*

**Background:** Violence in accident emergency department increasing day by day in the few last years. The National Institute for Occupational Safety & Health IN U.S.A shows that 49% of violence occur in accident emergency department and 87% towards nurses.

**Goals:** decrease violence towards nurses in A/E department Nazareth Hospital. Better confrontation against violence in A/E department Nazareth Hospital Improve ability of nurses to identify potential violence people.

**Methods:** 6 hours teaching programme included all nurses(15) in A/E department Nazareth Hospital. evaluation 3 months later, a questionnaire to nurses examined the reported violence level, learning tools to deal with problem, identification of potential violent patients.

**Out come:** increasing in staff report indicates zero physical violence in last 6 months 46.7% to 73.3%. during 4 months 13.3% experienced physical violence and 66% experienced verbal violence.

Post learning: staff succeed to prevent violence from 26.7% to 66.7%. staff reported on decrease of verbal violence.

80% of staff report that this course helps them a lot in dealing with the problem.

**Discussion:** increasing number of reports indicates zero physical violence during 6 months. by this course we see a change in staff behavior by gaining new tools to deal with the problem.

Knowledge to identify potential violent people is gaining.

**Conclusion:** The programme (course) succeeded to reduce violent reaction in accident emergency department by tools given to staff. in order to keep on we need to activate this teaching programme in other departments and continues refreshments.

## **Should Adult Patients with Scorpion Stings be Routinely Observed in the Emergency Department**

Dr. Meir Antopolsky, MD, Dr. Ruth Stalnikowicz, MD

*Emergency Medicine Department, Hadassah University Hospital, Mount Scopus*

**Introduction:** More than 20 species of scorpions inhabit Israel, and patients with scorpion stings are seen routinely in Emergency Departments (ED) of many hospitals. The common practice is to keep them under observation, with cardiological monitoring, for 6 hours. Our work comes to question this practice.

**Patients:** All adult patients that were seen in our ED during 14 months (09/2004 – 11/2005) with scorpion stings were prospectively recruited. 58 such patients were included. Age range was 16- 71 (mean 31.3+ 14 years). Most patients (85 %) were previously healthy. All patients underwent an ECG examination and were followed up in the ED for six hours.

**Results:** Most patients presented with local pain and swelling (88 %), local or generalized paresthesias (14 %). Nausea, tremor were rare manifestations. None of them had arrhythmia or other manifestations of severe poisoning. No one needed antivenom administration, hospitalization, or returned for repeated examination.

No single case of antivenom use in adults was registered in our ED during the last 10 years.

**Discussion:** Similarly to our results, revision of existing literature from Israel and neighboring countries shows that in healthy adults scorpion venom rarely causes severe poisoning – as opposed to 1) children and 2) scorpions from other geographic regions.

We propose that adult patients after scorpion sting without severe poisoning manifestations and with a normal ECG on admission can be safely discharged from the ED without need for further observation. Patient with previous heart disease and elderly ones are possible exclusion to this rule.

## **Improving the Pattern of Work Towards Emergency Medicine In the Medical Center, Israel**

Fuad Basis, MD, L B Otits, S Pollack, MD, M Michaelson, MD  
*Emergency Medicine Department, Rambam Health Care Campus*

**Introduction:** A lot has been said and written about the development of emergency medicine (E M) worldwide, and in some specific countries. A lot has been written about the achievements of EM later on. Yet, very few wrote about the transition era from, the so-called, Emergency room (ER), towards emergency department (ED) and EM.

The same way that the new specialty had broken a way from other specialties, so has it to disengage from other connections to get independence and recognition.

We share our experience and struggle to achieve independence, by changing concepts towards EM in our hospital.

**Backgrounds:** Our hospital is a referral hospital for the north of Israel, with 950 bed, and 34 beds in the ED. Our ED was divided into a trauma and a medical unit. Internal medicine specialists, working with an internal medicine perspective occupied the medical ED.

Therefore, evaluation of patients waited lasted many hours, with an abuse of consultants, lab and imaging services. Some patients waited in the ED till 3 days for a “free” bed in the other departments.

The trauma and surgical part was occupied by surgeons and orthopedics, and functioned separately.

**Objectives:** to improve the pattern of work towards EM as a new specialty.

**Methods:** the ER was united into one ED, managed by a specialist in EM, Intensive care and trauma. His deputy is a specialist in EM and internal medicine.

We defined that the goal of the ED is triage of patients towards discharge or admission, with the minimal time needed.

New protocols for evaluation, blood tests, imaging tests, consultation facilities, and pain management were implanted

**Results:** there was a dramatic reduction in the time needed for evaluation (by 44%), and the time waiting for admission to the departments.

The percent of patients waiting more than 4 hrs and more than 8 hrs for admission into the departments was reduced significantly (38% vs. 12% and 20% vs. 1% respectively).

The number of blood tests sent to the lab was reduced by 45%, and blood and urine cultures by 81% and 86.3% respectively.

**Conclusions:** changing concepts and improving the pattern of work towards EM, in the individual hospital, is the second step, to achieve recognition of EM as an independent field and specialty. This can be achieved by changing the whole way of thinking, by using protocols written in the soul of EM, and by the total backing of the hospital’s manager.

## **Paget -Schroetter Syndrome In The Young And Active Man**

Dr. J Ashkar, M.D, Dr. S Iusim, M.D, Dr. M Medved, M.D, Dr. P Peschansky, M.D  
*Emergency Department, Hillel Yaffe Medical Center*

Spontaneous thrombosis of the veins draining the upper extremity was postulated by Sir James Paget in 1875 as a cause of acute pain and swelling of the arm ,but von Schroetter, in 1884 ,was the first to relate the clinical syndrome to thrombotic occlusion of the axillary and subclavian veins .

It was not until 1949 when Hughes, in a review of 320 patients, recognized this disease process as a unique disorder and named it Paget-Schroetter syndrome .

Although rare (1%to 2% of all cases of deep venous thrombosis),this disease cause significant disability in a predominantly young ,healthy, active patient population .Moreover ,there have been several reports documenting a significant incidence of disability, ranging from 25%to 75%,in untreated patients who develop chronic upper extremity venous hypertension and /or recurrent venous thrombosis .

We report this case of effort thrombosis of the upper extremity (Paget- Schroetter syndrome) caused by hypertrophied muscles. This unusual cause of extrinsic venous compression and intimal injury leading to thrombosis was treated with good outcome.

## **Oral Betametsasone Versus Intramuscular Dexamethasone for the Treatment of Mild to Moderate Viral Croup: A Prospective, Randomized Trial**

Dr. Lisa Amir, MD, MPH, Dr. Henry Huberman, MD, Dr. Ayelet Halevy, MD,  
Dr. Meirav Mor, MD, Prof. Marc Mimouni, MD, Dr. Yehezkel Waisman, MD  
*Unit of Emergency Medicine, Schneider Children's Medical Center of Israel*

**Objective:** Intramuscular dexamethasone is an effective but painful treatment for croup. The effectiveness of betamethasone, an oral, palatable and equally potent glucocorticoid has not been studied. The purpose of this study was to compare the effectiveness of a single dose of betamethasone to intramuscular dexamethasone in the outpatient treatment of mild to moderate croup.

**Methods:** Children 6 months to 6 years presenting to a tertiary care pediatric emergency department (ED) with a modified Westley croup score of 0 to 11 were randomized to receive either 0.6 mg/kg IM dexamethasone or 0.4 mg/kg oral betamethasone. Croup score, heart rate, respiratory rate, pulse oximetry and need for supplemental treatments were recorded at study entry and at 1, 2, and 4 hours following treatment. Follow-up data were collected by daily telephone follow-up on persistence of symptoms and the need for additional treatment or physician visits up to 7 days after the ED visit.

**Results:** Each study group contained 26 patients. Despite randomization, the mean baseline croup score was higher in the dexamethasone group ( $3.6 \pm 2.6$  vs.  $2.0 \pm 2.4$ ,  $p = 0.03$ ). Patients in both groups showed a significant reduction in the croup score following treatment, and there were no significant differences between croup scores at 4 hours ( $p = 0.18$ ). Similarly, there were no differences between groups in the hospital admission rate, time to resolution of symptoms, need for additional treatments, or number of return ED visits.

**Conclusion:** There is no difference between oral betamethasone and intramuscular dexamethasone in the management of mild to moderate viral croup. It is palatable and does not require a nurse for administration, making it a good alternative for ambulatory management.

## **Fever Phobia in Southern Dan District**

Dr. Yoram Ben-Yehuda, MD, Yana Zahodin, RN, Ilona Berantz, RN  
*Unit of Pediatric Emergency Medicine, E. Wolfson Medical Center*

Fever is one of the most common reasons that parents seek medical attention for their children. Parental concerns arise in part because of the belief that fever is a disease rather than a symptom or sign of illness. Barton Schmitt, MD found that parents had numerous misconceptions about fever. These unrealistic concerns were termed “fever phobia.” More recent concerns for occult bacteremia in febrile children have led to more aggressive laboratory testing and treatment. Our objectives for this study were to explore current parental and medical staff attitudes toward fever.

*Methods.* Between September and December 2006, we have administered a cross-sectional 29-item questionnaire to hospital staff and caregivers whose children were enrolled in the Pediatric Emergency Unit of The E. Wolfson Medical Center. Portions of the questionnaire were modeled after Schmitt’s and elicited information about definition of fever, concerns about fever, and fever management. Additional information included home fever reduction techniques, frequency of temperature monitoring.

*Results.* A total of 11 caregivers and 35 physicians and nurses were interviewed. seventy percent of caregivers and seventeen percent of hospital staff were very worried about the potential harm of fever in their children, 6% considered a temperature of 38.0°C to be a “high” and dangerous fever. Seventy six percent of caregivers and staff believed that a fever could cause harmful effects; 1 listed brain damage, and 46% listed seizures. None of the caregiver would wake their child up to check the temperature, 1 gave antipyretics for temperatures >37.0°C. 20% of caregivers checked the temperature every hour. Forty Percent of board certified pediatricians stated that fever can cause death as well as brain damage and seizures.

*Conclusions.* Fever phobia exists not only among parents but also among physicians and nurses, thus the chances of reducing fever phobia in the population are slim. Educators in medical and nursing schools as well as Infectious diseases specialists have a unique opportunity to make an impact on parental and staff understanding of fever and its role in illness. Future studies are needed to evaluate educational interventions and to identify the types of medical care practices that foster fever phobia.

## **Pain in Infants Younger Than 2 Months of Age During Suprapubic Aspiration and Transurethral Bladder Catheterization: A Randomized Controlled Study**

Dr. Eran Kozer<sup>1,2</sup>, Dr. Ehud Rosenbloom<sup>1,2</sup>, Dorit Goldman<sup>3</sup>, Gila Lavy<sup>2</sup>,  
Dr. Noa Rosenfeld<sup>1,2</sup>, Dr. Michael Goldman<sup>2</sup>

<sup>1</sup> *Unit of Pediatric Emergency Medicine* <sup>2</sup> *Department of Pediatrics* <sup>3</sup> *Nursing Division, Sheba Medical Center*

**Objective:** to compare the pain experienced during suprapubic aspiration (SPA) and trans-urethral catheterisation (TUC) when performed in young infants.

**Methods:** A prospective, single blind, randomized controlled study was conducted at a university-affiliated hospital in Israel. Infants 0-2 month of age, who presented to the ED with fever and thus required urine collection for culture, were randomized evenly into two sample collection groups: SPA or TUC. Pain during collection was assessed on a 100 mm visual analogue scale (VAS) by a nurse and a parent. In addition, the infant's upper part of the body was videotaped during the procedure. An investigator, blinded to the procedure, assigned a point score according to the Douleur Aigue du Nouveau-ne (DAN) neonatal acute pain scale.

**Results:** Twenty-seven infants in the SPA group and 24 in the TUC group completed the study. The mean DAN score was significantly higher in patients randomized for SPA compared with patients randomized for TUC (7 and 4.5 respectively, difference between the means 2.5 (95% CI 1.4 to 3.7)). Mean VAS scores by parents was higher in the SPA group compared with TUC (difference between the means 6.8 (95% CI 1.8 to 31.8)). Similarly, mean VAS scores by nurses was higher in the SPA group compared with TUC (difference between the means 19.6 (95% CI 7.4 to 31.8)).

**Conclusions:** In infants less than two month of age, SPA is more painful than TUC. Health professionals should consider these differences when choosing a method for obtaining a urine sample from young infants.

## **Blood Cultures at Pediatric Emergency Department - Too Many? Are They Really Useful?**

Dr. Karin Cezar, MD, Dr. Yoram Ben-Yehuda, MD

*Unit of Pediatric Emergency Medicine, The E. Wolfson Medical Center*

**Background:** The classical indications for taking blood cultures in children in the emergency department are well established. However in the last years, the impact of a ‘defensive medicine’ frequently leads to overdoing tests. More, taking blood culture is not only time consuming for the medical staff in the emergency room but requires also human and equipment resources for laboratory results.

**Objective:** The aim of this retrospective study was to establish the percentage of positive blood cultures taken in the pediatric emergency room and to look if the indication of taking them were really justified.

**Methods:** From January 2004 till December 2004, a total of 1147 blood cultures were taken from pediatric patients, aged from 0 to 19 years in the Pediatric Emergency Unit of the E. Wolfson Medical Center. The medical history and clinical data were obtained by reviewing the medical record of the patients and the laboratory data from the computerized medical records.

**Results:** During this period, 110 positive blood cultures were obtained, representing 9.6% from total blood cultures. The clinical data were obtained for 70 of the 110 patients with positive blood culture.

The patients with positive blood culture were from 1.2 months to 19 years of age and 57% of them were females. Before the ED visit, eighty percents of the patients had fever higher than 39°C. Blood cultures were obtained from well appearing patients in 90% and from septic appearing patients in 0.5% of cases. The diagnosis was made in 41% of cases after taking history and clinical examination. The leucocytes count was more than 15000/ml or less than 5000/ml in 45% of the patients.

The most frequent diagnosis was viral infection (20%), otitis media (15.7%), gastroenteritis (14.2%), pneumonia (12.8%), suspected occult bacteremia (12.8%) and tonsillitis (10.5%). Thirty seven percent of the patients were hospitalized.

From the positive blood cultures 78.2% were contaminated by skin flora and only 11.4% (8 patients) were true positive blood cultures (Staph. Aureus 1, Salmonella1, E.Coli 1, Pneumococcus 4, Kingella1).

All 8 patients with true bacteriemia were less than 3 years old and had more than 38.5 fever at home. Two of them had underlying disease (Netherton like syndrome and recurrent otitis media). One patient was septic on arrival, while the others appeared well. Sixty two percent had leucocytosis more than 15000/ml. The diagnosis were occult bacteriemia (4/9), gastroenteritis (2/9), pneumonia (1/9) and otitis (1/9). Only the septic patient with salmonella gastroenteritis was hospitalized. Seven patients were discharged with antibiotic.

**Conclusion:** In our retrospective study, 9.6% of all blood cultures taken during 2004 in the pediatric emergency unit were positive and only 11.4% of them (1.09%) were true positive. The most frequent diagnosis for patients with positive culture was viral infection and all of them had contaminated culture, the same observation has been made for patients with tonsillitis and bronchiolitis. In conclusion, most of the blood cultures are taken in children in the emergency department without historic, clinical or laboratory justification, are not useful and increase the workload as well as expanses.

## The Difficult Airway- Mac4 blade Vs "Viewmax®": A Survey of Physician Performance and Preference

Dr. M Quash, MD<sup>2</sup>, Dr. S Yahalom, MD<sup>1</sup>, Dr. J Ripper, MD<sup>2</sup>, Dr. C Hsu, MD<sup>1,2</sup>

<sup>1</sup> Emergency Department, Beth Israel Medical Center. <sup>2</sup> Emergency Department, Brooklyn Hospital

**Background:** Rapid control of the difficult airway is of primary concern. Viewmax ® is a laryngoscope blade which has the appearance of a Mac 4 blade equipped with an optical lens that refracts the image approximately 20 degrees horizontally, allowing improved visualization of an anterior airway. **Objective:** to compare physician performance and preference in blades in a difficult airway model. **Methods:** PGY-1 through PGY-4 EM residents were provided a brief tutorial on endotracheal intubation using both the Mac 4 blade and Viewmax ® blades on a fiberoptic handle. Each resident practiced on a standard Lateral 2600® airway mannequin until he/she felt comfortable intubating the mannequin using both blades. Individually, a surveyor recorded the time for intubation measured from the moment of the scissoring action to open the mouth until inflation of the mannequin's lungs first using the standard Mac 4 blade and then the Viewmax ® blade. A standardized survey addressed the physician's preference. **Results:** N=61. Mac4 mean intubation time : 21.3. Median: 17.9 SD: 9.57. Range: 10.7-67.8. 95% CI 19.86-23.76. Viewmax ® mean intubation time: 21.4. Median: 19.2. SD: 9.60 Range 10.2-64.1. 95% CI 18.94-23.85. Pre-study group preference: Mac4: 31/61 (59%) ViewMax®: 0%. Post-study: Mac4: 14/61 (22.9%) ViewMax®: 23/61 (37.7%). 8.2% felt that the ViewMax® was more cumbersome to use while 28/61 45.9% felt that the ViewMax® offered an earlier and improved view of the cords with less energy and manipulation.

### Preferences: Before the study

Before Study	EM1	EM2	EM3	EM4	After Study	EM1	EM2	EM3	EM4
Mac 3		7	5	2			3	2	1
Mac 4	12	9	9	6		3	5	4	2
Straight		1		1		1	1		
Viewmax ®						7	8	8	

	EM1	EM2	EM3	EM4
Prior Experience w/old blades	3	7	3	2
Better/Easier Visualization of cords w/Viewmax ®	6	8	7	4
Less force/energy required with Viewmax ®				3
Viewmax ® more cumbersome	2	2	1	
Viewmax ® less cumbersome			1	
Better view w/Mac 4			1	
Viewmax ® better for difficult intubation			1	

**Conclusion:** No significant difference in recorded intubation times between Mac 4 and the ViewMax® blades. More than half of the EM residents who initially preferred the Mac 4 blade would consider using the ViewMax ® blade for difficult intubations. Less energy requirement, earlier and better visualization of the vocal cords were reasons cited for their change in preference.

## **Lessons Learned from Mass Toxicological Incidents Drills**

Chaim Rafalowski, M.A

*Operations Division, Emergency Management Department, Magen David Adom*

Mass Toxicological Incidents (MTI) due to transportation or industrial accidents, or due to a terrorist attacks are one of the core issues of preparedness for Magen David Adom (MDA), Israel's national EMS, in the past 3 years. Along with having a coordinated doctrine and procurement of personal protective equipment (PPE) and medications, major effort was directed towards training, which included internal training and multi responding agencies drills.

The main lessons learned from the multi agencies drills are:

1. Coordination between the different agencies working within the contaminated area.
2. Use of different levels of protection for the same mission by different responders.
3. Management of a large scene with small "Ad – Hock" task forces working separated one from the other.
4. Coordinating the activities in the contaminated area with those occurring in the "outer circle".
5. Severe communications problems working in PPE and in a multi organizations environment.
6. Adjusting the "set of mind" of responders to different response tactics.
7. Safety issues, most important heat stress of responders working in PPE.
8. Clinical detection of the material involved is problematic, responders tend to act according to information provided in the briefing prior to the drill.

Some of the issues were targeted: joint training for incident commanders from different agencies is a good example, doctrine was changed following drills. Communications is an issue for further R&D, and other issues such as a better design of drills are still to be addressed.

Intense work is still ahead of all the responders.

## **Antithrombotic Therapy for Prevention of Stroke in Clinical Practice at the Emergency Department**

Dr. Asia Kogan, MD, Dr. Reuma Shapira, MD  
*Emergency Department, Carmel Hospital*

**Study objectives:** We analyzed the Emergency Medicine Department's practice of prescribing anticoagulation medication for stroke prevention, its compliance with clinical guidelines, and the role of the emergency physician in prescribing anticoagulation medication. We also determined the occurrence of thromboembolic events in patients with atrial fibrillation (AF) during an eight-month follow-up after discharge from the emergency room.

**Methods:** Over a six month period, patients presenting to the emergency department (ED) with AF were registered using a predesigned, two-part questionnaire. The first part considered the ED's management of patients with AF, and the second part evaluated the data of returning patients and their follow-up treatment, based on the drug supply registry.

**Results:** This study included 102 ED visits of patients with AF, of whom 38 were hospitalized and 64 discharged. Thirty-six of the discharged patients required anticoagulation according to the ACCP/AHA guidelines. Of these, 28 (75%) were prescribed anticoagulation medication and 8 (25%) were not, 5 due to contraindications and 3 for unknown reasons. No patient returned to the ED with a thromboembolic event during the 8-month follow up period.

**Conclusion:** The prevalence of anticoagulation prescription for stroke prevention and the compliance with clinical guidelines was found to be greater than previously reported. Our data show that most of the patients with AF and those with risk factors for stroke were prescribed anticoagulation medication. This study illustrates the importance of applying clinical guidelines in daily practice and integrating them into patients' medical files in the ED.

## פיתוח אינדקס להערכת תרגילי החייאה לצוות הרפואי בבית חולים

ז זוהר, א אייזנמן, א יקיר, א שטיינר, צ פביו, ד"ר י הארון  
בית החולים לגליל המערבי- נהריה

**רקע-** בבי"ח מתבצעת בקרת איכות בנושא החייאה. המבדק מבוצע ע"י רופאים ואחיות מדריכי החייאה בכל מחלקות ויחידות ביה"ח, בדומה לאופן שבו מתרחשת החייאת אמת. תרגילי הפתע, המדמים החייאת אמת, מאפשרים בנוסף לתרגול, גם לאתר תקלות מערכתיות, להביאן לדיון ולספק פתרונות בוועדת החייאה.

המבדק נערך מזה מספר שנים באמצעות כלי הבקרה. בסיום ההליך נמסר דו"ח ממצאים לכל מחלקה/ יחידה לביצוע הליך שיפור ופעולות מתקנות.

**המטרה-** במטרה לבחון מגמות לאורך שנים, הן ברמת המחלקה והן ברמת ביה"ח, עלה הצורך לבחון את כלי הבקרה שהיה איכותני, ולפתח אינדקס כמותי. אינדקס כמותי מאפשר השוואה של תוצאות המבדקים בין מחלקות ולאורך זמן.

**שיטות וכלים-** מתוך כלי הבקרה נבחרו 9 פרמטרים. הפרמטרים נבחנו על בסיס תוצאות 70 תרגילי פתע, שנעשו במחלקות בשנים 2003-2004.

השיטות הסטטיסטיות כוללות חישוב מדד מהימנות Spearman correlation coefficient, Alpha Cronbach, Factor analysis, test מבחן Kruskal wallis, השוואה בין ממצאי הציונים לפי האינדקס לבין הערכות ציונים שניתנו באופן איכותני וחוות דעת מקצועיות בתחום (לגבי חלוקת הפרמטרים לפי סדר חשיבותם).

**תוצאות-** הפרמטרים חולקו לקבוצות לפי רמת המהמנות אלפא קרונבאך. קבוצה 1 מקדם מהמנות 0.84 כללה: ידע, עבודת צוות, ניהול החייאה, מיומנות, עקרונות לפי ABC. קבוצה 2 עם מקדם מהמנות 0.60 כללה: זמן תגובה והזעקת רופא וקבוצה שלישית מקדם מהמנות 0.69 כללה עגלת החייאה ומכשור דפיברילטור, הפרמטרים ידע, עבודת צוות, ניהול החייאה, מיומנות ועקרונות לפי ABC תרמו לחישוב האינדקס באופן שווה (15% כל פרמטר), זמן תגובה והזעקת רופא תרמו לאינדקס 7.5% כל פרמטר, עגלת החייאה ומכשיר דפיברילטור תרמו לאינדקס 5% כל פרמטר.

ציוני המחלקות חושבו עפ"י האינדקס החדש ונמצאו הבדלים סטטיסטיים מובהקים בין המחלקות לפי מספר המבדקים שעברו בשנת 2003. ממוצע הציונים במחלקות שבהן נערך מבדק אחד היה 83, במחלקות בהן נערכו שני מבדקים (64% מהמחלקות) הממוצע היה 62, ובמחלקות שבהן נערכו 3 תרגילים או יותר (25%) הממוצע היה 48 ( $p < 0.05$ ). התוצאה תורמת לביסוס האינדקס.

**מסקנות-** האינדקס שפותח מבטא את המשקל היחסי של כל הפרמטרים לפי מידת חשיבותם להצלחת ההחייאה, מאפשר מתן ציון מאוני מסכם למבדק ולבצע השוואות בין מחלקות ולאורך זמן.

## **Violence in the Emergency Department: A Fatality or Can we Prevent the Phenomena**

Esther Weisbard, MA<sup>1</sup>, Galit Barak, MA<sup>2</sup>, Marie Rouach, BA<sup>2</sup>

<sup>1</sup> ED Meir Hospital. <sup>2</sup> Meir School of Nursing, ED Meir Hospital

Is violence in the emergency department a consequence of our social violence or are there internal causes that lead to violence in the hospital? Violence is defined as a verbal or physical assault against others.

32% of care workers in the US report daily violence while doing their job and in Israel 65% of violent acts are reported in healthcare settings, more on nurses than on others.

The purpose of this article was to assess the importance of violence against workers in the emergency room (physicians, nurses, and Clerks).

To understand and analyze the different factors that lead to increase the phenomena.

To suggest different ways to cope with violence in the emergency department, and to prevent it.

An informative questionnaire was addressed to physicians, nurses and clerks in the emergency room to assess the kind of violence, define who is more at risk and to bring some solutions .

58 questionnaires were distributed, 46 were sent back. The findings show:

100% answer that verbal abuse is the more common way of violence.

70% of the nurses, 64% of physician's and 100% of clerks report to their direction about verbal assaults.

In most of violent assaults the patient or his family was involved. (Nurses 84%, doctors 73% clerks 100%).

Most of them answer that teamwork can not prevent violence. (38% nurses, 37% doctors, 44% clerks) .

We suggest some solutions from literature and an original way to prevent violence in the emergency department, especially against nurses which are the first victims.

## The Utility of Chest Radiographs to Evaluate Suspected Aortic Dissections in the Emergency Department as a Function of Patients - Age, Sex and Dissection Type

Dr. Zeev Wimpfheimer, MD, Dr. Ariel G Bentancur, MD, MHA

*Emergency Medicine Department, Sheba Medical Center*

**Study Objectives:** Several studies have delineated the accuracy of Chest X-ray (CXR) findings suggestive of acute Aortic Dissection (AD). As AD represents a life threatening medical emergency, and as modalities with high sensitivity and specificity for its diagnosis (CT, MRI and TEE) become more available in the Emergency Department (ED), we sought to further study the use of CXR as a screening tool. Specifically, we studied the utility of 7 CXR parameters in patients with AD, and their utility as a function of patients' age, sex and Dissection Type (Stanford A vs. B)

**Methods:** We retrospectively reviewed the presenting CXR of patients, 18 years or older who were subsequently diagnosed as suffering from acute AD. The setting was a 3-year period in two medical centers (one with an annual adult census of 106,000 and one with an annual adult census of 54,000). Each CXR was reviewed by one of the two authors (Board Certified Emergency Physicians) and evaluated for the following accepted signs of Aortic Dissection: Widened Mediastinum, Exact Mediastinal Width, Tracheal Deviation, Aortic Contour Abnormality, Presence of Double Shadow and width thereof, Pleural Effusions, Calcified Aorta, and Calcium Sign (displaced intimal calcification >0.5 mm). Using this data, we calculated the sensitivity of each parameter. We then divided the study group by age, sex and Dissection type to determine if these parameters are important factors in the utility of CXR to diagnose AD. We used Chi Squared test at level  $p < 0.05$  to determine significance when comparing one group to another

**Results:** 50 patients were included in the study group. 56% of the patients were male. Mean age of patients studied was 67.12 years (SD  $\pm$  14.5) The following Table represents calculated sensitivities for each group by parameter studied:

Parameter	All Pt.s n - 50	Age>65 n - 32	Age<65 n - 18	Male n - 28	Female n - 22	Type A n - 34	Type B n - 16
Wide Mediastinum	88% (44/50)	94% (30/32)	78% (14/18)	82% (23/28)	95% (21/22)	85% (29/34)	94% (15/16)
Tracheal Deviation	42% (21/50)	50% (16/32)	28% (5/18)	39% (11/28)	45% (10/22)	35% (12/34)	56% (9/16)
Double Shadow	50% (25/50)	63% (20/32)	28% (5/18)	46% (13/28)	55% (12/22)	53% (18/34)	44% (7/16)
Contour Abnormality	50% (25/50)	53% (17/32)	44% (8/18)	36% (10/28)	68% (15/22)	53% (18/34)	44% (7/16)
Pleural Effusion	22% (11/50)	22% (7/32)	22% (4/18)	18% (5/28)	27% (6/22)	21% (7/34)	25% (4/16)
Calcium Presence	36% (18/50)	47% (15/32)	17% (3/18)	25% (7/28)	50% (11/22)	38% (13/34)	31% (5/16)
Calcium Sign	10% (5/50)	13% (4/32)	6% (1/18)	4% (1/28)	18% (4/22)	15% (5/34)	0% (0/16)
Mean Mediastinal Width (cm.)	11.32	11.31	10.21	10.79	11.99	11.5	11.3

Regarding comparisons between age, sex and dissection type, those with statistical significance were age with regards to Double Shadow ( $p = 0.025$ ) and Presence of Calcium ( $p = 0.05$ ), and sex with regards to contour abnormality ( $p = 0.025$ ). No other differences were statistically significant.

**Conclusions:** Presence of a widened mediastinum is the most sensitive CXR sign of AD at 88%. CXR signs of AD are more often present in patients over 65 and represent a significantly more sensitive screening tool for patients over 65. While the presence of contour abnormality is a more sensitive in female patients, there is no significant difference in sensitivity for an ultimate diagnosis of a Type A vs. a Type B Dissection.

## **Carcinoid Tumor and Appendicitis**

Ariel G Bentancur, MD, MHA<sup>1</sup>, Amir Cohen, MD<sup>2</sup>, Alexnder Zendel, MD<sup>2</sup>

<sup>1</sup>Emergency Medicine Department <sup>2</sup>Surgery Department C, Sheba Medical Center

### **Introduction**

In a small, but significant percent, other conditions rather than acute appendicitis cause acute right lower quadrant abdominal pain and result in emergency appendectomy. We describe the frequency of carcinoid tumor among these patients in our medical center.

### **Methods**

Researchers applied a retrospective search of adult patients undergoing emergency appendectomy over a two-year (2002-2003) period, using the ED electronic database.

### **Results**

During the two-year period, 670 patients underwent emergency appendectomy. Of them, seven (1.04%) had a carcinoid tumor of the appendix. Among these, six had a coexistence of inflammation of the appendix and one showed oxyuris infestation. The clinical picture of the patients was not different from the one of acute appendicitis patients.

The overall use of preoperative diagnostic imaging (CT or US) during the studied period was 37%. None of these patients was diagnosed prior to surgery as having an abdominal tumor.

### **Conclusion**

Our study shows a higher than expected incidence of carcinoid tumors of the appendix in patients undergoing emergency appendectomy. The reported prevalence of appendiceal carcinoid tumor is 43-54/100000/year in incidental finding studies, and 0.13-0.51% in acute symptomatic patient studies. The described symptoms in carcinoid tumor were indistinguishable from those of acute appendicitis.

Most appendiceal carcinoid tumors were less than 2 cm in diameter when discovered, and as previously reported usually were missed by imaging, and by the surgeon.

## טיפול משולב המשכי בילדים: מלר"ד - מחלקה

איתי שביט, ענת שניר, מרי פרץ, ענת דובובי, תמי הוד

*Pediatric Department, Meyer Children's Hospital, Rambam Health Care Campus*

למחלקה לרפואה דחופה בילדים השלכה ונגיעה לאתרי טיפול רבים בביה"ח. מדובר בנקודת המפגש הראשונה והמשמעותית ביותר של הלקוח (ילד ומבוגר מלווה), עם בית החולים. המפגש הראשון של הילד והוריו עם הצוות בחדר המיון הוא החוויתי ביותר ומטביע חותמו לבאות. מכאן, שלגישתה של האחות כלפי הילד והוריו, עם כניסתם לבית החולים, השפעה מכרעת על ההיענות לטיפול, האמון שיפתחו כלפי המטפלים ועל האווירה הרגשית שתלווה את התהליך.

בבית החולים "מאייר" לילדים (מרכז הרפואי רמב"ם) ניבנה מודל טיפול המשכי, במהותו מתן טיפול רפואי לילדים הפונים למיון, ע"י רופאי שתי מחלקות הילדים וטיפול סיעודי - ע"י אחיות שתי מחלקות הילדים. צוות אחיות מחלקות הילדים (N=60) הוכשר במסגרת קורס ייחודי (50 שעות לימוד תיאורטי +40 שעות התנסות קלינית) ראשון מסוגו, לטיפול בילדים הפונים למלר"ד ילדים, תוך הדגשת טיפול יעיל, מהיר והמשכי לקראת אשפוז במחלקות, או לחילופין מעקב טלפוני עם השחרור הבית.

כתוצאה מיישום המודל נצפית עליה במקצועיות הצוות, בשיתוף הפעולה הבין-מחלקתי במאייר, בשביעות רצון הצוות, בהערכה העצמית של האחיות ובשביעות רצון המטופלים.

המודל יצר פתיחות בין אנשי הצוות, שקיפות בין מחלקות דומות וצמצם את התחרות. כמו כן מהווה המודל כלי בידי הנהלת הסיעוד לזיווג עומסים ולניהול כח אדם מושכל יותר בעידן של משאבים מצומצמים, וזאת בזכות איגום המשאב האנושי הסיעודי ואפשרויות ניווד צוות סיעודי על פי עומסים.

המודל יוצג באמצעות פוסטר.

## **Treatment Management by Nursing Staff In The Emergency Department (ED) to Increase Treatment Quality, And Patients', And Staff' Satisfaction**

Nili Gabai, Aziz Darawsha, MD

*Emergency Medicine Department, Haemek Medical Center*

Background: The emergency department (ED) is a department of dynamic and changing characteristics. Patients' conditions and complexity, variety of diseases, and their number is diverse and unpredictable.

Basic hypothesis- The nurse function in the ED has crucial and significant importance as a manager of the treatment.

A professional approach was formed in Haemek medical center ED, backed-up with professional instructions and guidelines, in which the nursing staff has a central role and responsibility in the management of the patient treatment.

The aim of the study: Is to check whether our Nursing method of work in Haemek ED, with focusing on decisions making and functioning independently, in some steps of the treatment process such taking blood samples, giving drugs/fluids without asking the responsible doctor, is more efficient than the method in which the nursing staff perform all these measures and others for the patients only after asking the doctor and according to his instructions. The comparison will concentrate mainly on the patient stay period in the ED, another two parameters (related to the treatment quality) which were tested in this model of work are: Patients' satisfaction, and the nursing staff's satisfaction.

Methods: Concerning reducing the stay period the survey included 100 visitors to the ED. The first group; 50 visitors who were triaged and underwent primary treatment and investigation by the nurse according to professional instructions.

The second group; 50 visitors who were triaged with vital signs measuring but blood samples were taken after asking the doctor and according to his decision.

The patients satisfaction were checked by satisfaction surveys taken by Clalit Health Services, and satisfaction survey of patients in Haemek ED.

The staff's satisfaction was checked by a survey aimed to staff members satisfaction.

Results\Conclusions.

Research findings show that stay period of the first group in the ED was significantly shorter than that of the second group. Also more satisfaction of the patients and the nursing staff in the ED were observed.

## Undiagnosed Acute Coronary Syndrome (ACS ) in the Emergency Department (ED ), Frequency , and Clinical Characteristics of Undiagnosed Patients

Aziz Darawshe, MD<sup>1</sup>, Youri Rabkin, MD<sup>1</sup>, Batsheva Tzadok, MD<sup>1</sup>, Fuad AbdElhadi, MD<sup>1</sup>, Anuar Ali Mustafa, MD<sup>1</sup>, Tiberio Rosenfeld, MD<sup>2</sup>

<sup>1</sup> Emergency Medicine Department <sup>2</sup> Cardiology Department, Haemek Medical Center

Background: Per definition ACS includes, Unstable Angina (UA), Non ST elevation Myocardial Infarction(NSTE-MI),and ST elevation Myocardial Infarction(STE-MI). Because of diagnostic difficulties there are overdiagnosis and overadmission causing economical burden, and still there are 2-10% with ACS who are misdiagnosed and discharged home from the ED.

Aim of the study: To study the frequency, demographic and clinical characteristics of the undiagnosed ACS pts in our ED.

Protocol and Methods: We investigated the files of all the pts who were admitted to our medical center due to ACS between 01/01/02-31/12/03. There were 1067 pts. 446 with STE-MI, 214 with NSTE-MI, and 407 with UA. 26 pts of them were misdiagnosed during there 1-st visit in the ED, discharged home and returned to the ED during the next 48 h ,and then were admitted to ICCU or internal departments.

These pts (26) were called Group I . We sampled 87 files of pts with ACS who were admitted to the hospital during there 1-st visit and we called them Group II.

We compared the demographic and clinical characteristics of these Groups pts.

Results: 26 pts with ACS ( 2.4%) were misdiagnosed ; Group I included younger pts, 27% of them < 50y compared to only 12.6% in group II, ( P-0.081 ) , more Arabs 57% compared to 33% in Group II ( P-0.038 ) , and they were more hypertensive 50% : 33% ( P-0.037).

Two pts from group I were treated for Depression (P-0.05), 9 pts in group II had CVA in the past compared to 1 pt from group I (P-0.39). The percentage of pts arriving to the ED during night shift was higher in group I, 30.8% Vs 19.1% ( P-0.066).

Conclusions: We conclude:

- 1) The frequency of the missed ACS pts in our ED is similar to that observed in other EDs.
- 2) The missed ACS group in our study includes more younger, hypertensive, and arab pts with significant portion arriving to ED during night shift.

## **Clinical and Electrocardiographic Findings, Characteristic of Misdiagnosed Acute Coronary Syndrome (ACS) in the Emergency Department (ED)**

Aziz Darawshe, MD<sup>1</sup>, Youri Rabkin, MD<sup>2</sup>, Arcadi Shnaider, MD<sup>1</sup>, Batsheva Tzadok, MD<sup>1</sup>,  
Fuad Abdelhadi, MD<sup>1</sup>, Alexander Feldman, MD<sup>1</sup>, Tiberio Rosenfeld, MD<sup>2</sup>

<sup>1</sup> *Emergency Medicine Department* <sup>2</sup> *Cardiology Department, Haemek Medical Center*

Background: Misdiagnosing patients (pts) with ACS and discharging them home can have dire consequences. Despite the advances in the diagnostic techniques and evaluation strategies used in the ED for pts who present with symptoms suggestive of cardiac ischemia, still some percentage of pts with ACS are missed and discharged home.

Aim of the study: To study the characteristics of clinical complaints/symptoms, and electrocardiographic findings of misdiagnosed ACS pts.

Methods: We analyzed the clinical and ECG data of 26 pts with ACS who were discharged from the ED group I, and compared them with findings of sample of 87 pts with ACS who were admitted to ICCU or internal department group II.

Results: 65% of pts from group I presented with chest pain compared to 89% of pts of group II (P=0.000), abdominal pain was quite frequent in group I ; 46% Vs. 5.6% (P=0.000) ; dyspnoea was seen in only 8% Vs 45% in group II (P=0.001), sweating in 11.5% Vs 31.5% (P=0.004), atypical chest pain 26% Vs 1.1% (P=0.000).

For 57.7% of pts of group I one ECG was performed and in 38.5% more than one ECG were performed. Normal ECG was seen in 38.5% in group I Vs. only 27% in group II ( P=0.258 ), in 57.7% of pts from group I the ECG was abnormal, and the most frequent changes were, old MI ( 19.2% ), LVH-strain ( 15.4% ), T-wave inversion ( 7.7% ) and others.

Conclusions:

- 1) Failure to diagnose and hospitalize pts with ACS is multifactorial and frequently related to atypical clinical features and presentation.
- 2) In high percentage of misdiagnosed pts the ECG is abnormal and efforts must be done to improve interpretation and looking for dynamic changes in follow-up ECG's.

## **SOFFODEX - Is it Good or Harmful?**

Dr. J Ashkar, M.D., Dr. S Iusim, M.D, Dr. M Medvedovsky, M.D, Dr. P Peschansky, M.D  
*Emergency Department, Hillel Yaffe Medical Center*

The usage of phosphates in their various forms is not widespread in medicine.

We use them intravenously in order to correct electrolyte disturbances (hypophosphatemia), as a supplement to hyperalimentation and in special cases of diabetic ketoacidosis.

In spite of what is written above, it must be noted that oral or rectal routes of therapy have become more acceptable, especially as a preparation for endoscopic examinations, such as colonoscopy.

Contraindications for the use of Soffodex include renal failure, hypocalcemia, hypokalemia, hyperphosphatemia, severe congestive heart failure, ascites and many other conditions.

We present the case of a 74-year-old woman who was sent to our emergency room from the regional geriatric hospital. She arrived with neurological complaints that included difficulty speaking and recurrent syncope episodes. After a few hours' observation and no significant cardialogic or neurologic findings, the patient returned, in a stable condition, to the geriatric hospital.

The next morning the patient was brought to the emergency room complaining of seizures in her left arm and leg.

The patient's recent medical history indicated that one day previously she had undergone colonoscopy preparation that included oral ingestion of Soffodex (a phosphate combination). In light of this new information, and a convulsive episode, blood tests for calcium and phosphate levels were ordered. The blood tests revealed significant hypocalcemia and hyperphosphatemia inappropriate to the patient's known mild chronic renal failure. The patient was successfully treated with an intravenous calcium preparation as a supplement to the standard anticonvulsive therapy.

This case demonstrates the importance of a complete and thorough medical history and the need to be aware of the many contraindications, such as renal failure, to the routine use of Soffodex preparation prior to colonoscopy.

**הגורמים הקשורים בתפיסותיהם של בני משפחה,  
בנוגע לתהליך קבלת החלטות של הרופא במחלקה לרפואה דחופה  
ביחס לקשיש עם ירידה קוגניטיבית**

הגר ברוך

הקריה הרפואית לבריאות האדם - רמב"ם

תהליך קבלת ההחלטות במפגש רופא – חולה הינו מורכב ותלוי במידה רבה במאפיינים של החולה ובסגנון קבלת ההחלטות בטיפול של הרופא. לתקשורת בין רופא לחולה יש השפעה על התנהגות החולה ועל מצבו הכללי, כמו שביעות רצון מן הטיפול, הענות לטיפול, הבנה של המידע הרפואי, התמודדות עם המחלה, איכות החיים, ואפילו מצב הבריאות.

כאשר החולה הוא קשיש עם ירידה קוגניטיבית, נכנס גורם נוסף לאינטראקציה, גורם אשר מלווה ומסייע לקשיש, בן המשפחה המטפל. במצב זה קבלת ההחלטות מתרחשת לא בדיאדה של רופא – חולה, אלא בטריאדה של רופא-חולה-מטפל, והתהליך מורכב יותר ובעל השלכות גדולות אף יותר. בני המשפחה יכולים להיות דוברים של החולה ושל המשפחה, להביע דעות ודאגות שלחולה יש קושי להביע. לבני המשפחה יכולה להיות השפעה חיובית על תהליך קבלת ההחלטות בשל תמיכה רגשית והאפשרות לשמר את הידע המתקבל והעברתו לחולה בדרכים שיוכל להבין.

מחקרים רבים בדקו את תהליך קבלת ההחלטות במפגש הטיפולי חולה – רופא והשלכותיו על בריאות החולה. מספר מחקרים בדקו טריאדות בטיפול, במיוחד בתחום האונקולוגי.

אולם, עד כה לא נבדקו טריאדות בטיפול המורכבות מרופא, בני משפחה מטפלים, וקשיש עם ירידה קוגניטיבית. המחקר הנוכחי בוחן את הגורמים המשפיעים על תפיסות בני המשפחה והמטפלים של קשיש עם ירידה קוגניטיבית את תהליך קבלת ההחלטות בטיפול במחלקה לרפואה דחופה (חדר מיון).

המסגרת התיאורטית למחקר כללה את מודל יחסי קשיש מטופל – רופא וכן מודל לחץ והתמודדות של בני משפחה מטפלים, אשר באמצעותם נבנה מודל למפגש הטריאדה הטיפולית בטיפול בקשיש עם ירידה קוגניטיבית.

ההשערות המרכזיות אשר נבדקו במחקר הן :

א. אפיוני הקשיש עם ירידה קוגניטיבית כמו גיל, מצב קוגניטיבי, מצב בריאותי ועוד, ישפיעו על האופן בו בני המשפחה המטפלים תופסים את סגנון קבלת ההחלטות עם הרופא.

ב. אפיוני המטפל כמו גיל, מין, השכלה, עמדות ועוד, ישפיעו על האופן בו בני המשפחה המטפלים תופסים את סגנון קבלת ההחלטות עם הרופא.

ג. יחסי מטפל – מטופל כמו מידת הקשר עם הקשיש בעבר ובהווה, תפיסת מידת העומס הטיפולי והשתתפות אחרים בטיפול, ישפיעו על האופן בו בני המשפחה המטפלים תופסים את סגנון קבלת ההחלטות עם הרופא.

ד. אפיוני המפגש רופא – מטפל כמו הזדמנות לדון עם הרופא ביחס למידת ההשתתפות הרצויה בקבלת ההחלטות, תפיסת עיתוי קבלת ההחלטה, והזמן שהוקדש על ידי הרופא, ישפיעו על האופן בו בני המשפחה המטפלים תופסים את סגנון קבלת ההחלטות עם הרופא.

בדיקת ההשערות נעשתה באמצעות ראיון פנים אל פנים עם 100 בני משפחה ומטפלים ( 63% בן/בת, 68% נשים, גיל ממוצע 46) של קשישים עם ירידה קוגניטיבית (קלה עד בינונית) אשר הגיעו עם הקשישים לבדיקה במחלקה לרפואה דחופה בבית חולים רמב"ם בחיפה.

תוצאות המחקר מצביעות על כך שתהליך קבלת ההחלטות נתפס על ידי המטפלים בקשיש עם ירידה קוגניטיבית כדי חד כווני. רוב המטפלים הרגישו שהרופא מקבל מידע מהם אולם הם לא קיבלו מידע במידה מספקת. מעטים הרגישו שהייתה להם הזדמנות לשאול שאלות ולבטא את עצמם. המטפלים תפסו כי הרופא לא מעוניין שייקחו חלק פעיל במפגש הטיפולי, וכתוצאה מכך הגישה של הרופא נתפסת די פטרנליסטית.

מבין מרכיבי המודל, המשתנים הקשורים למפגש רופא- מטפל נמצאו כמנבאים העיקריים הן לקבלת מידע והן לגישת הרופא. למרות שבמודל התיאורטי שלנו הונח שגם אפיוני המטפל, הקשיש והקשר ביניהם ישפיעו על תפיסותיהם בנוגע לתהליך קבלת החלטות, ממצאי המחקר מראים כי חשיבות משתנים אלה היא קטנה ביותר.

לממצאי המחקר השלכות תיאורטיות ויישומיות. מבחינה תיאורטית, נבנה מודל חדש לקבלת החלטות במפגש הטריאדה הטיפולית בטיפול בקשיש עם ירידה קוגניטיבית, כפי שנתפסת על ידי המטפלים. במחקר זה לא נמצא קשר מובהק בין יחסי מטופל - מטפל לתפיסות בני המשפחה את תהליך קבלת ההחלטות.

מבחינה יישומית, הבנת המקום המיוחד שיש לבן המשפחה המטפל במפגש טיפולי בו לקשיש יש ירידה קוגניטיבית, תאפשר למערכת הבריאות בכלל, ולרופאים בפרט, לשתף יותר את המטפלים בתהליך קבלת החלטות, ולספק להם מידע בהתאם לדרוש להם. שותפות טיפולית ותקשורת טובה עשויות להשפיע באופן ישיר על התוצאות הבריאותיות (פיזיות ונפשיות) של הקשיש.

## **Fifty-Year-Old Man with Symptomatic Hypocalcemia**

Dr. J Ashkar, M.D., Dr. S Iusim, M.D, Dr. M Medvedovsky, M.D, Dr. P Peschansky, M.D  
*Emergency Department, Hillel Yaffe Medical Center*

Weakness is one of the most common complaints presented to the physician. In the case of muscle weakness and associated phenomenon (muscle cramps, numbness, fasciculation, seizure and hypotension) the following routine studies are required: CBC and sedimentation rate, muscle-enzyme level, VITB12, thyroid function, serum albumin and globulin and, most importantly, serum electrolytes including calcium level.

The symptoms of hypocalcemia are usually non-specific and are manifested in neuromuscular irritability with neurological, gastrointestinal, respiratory and cardiac effects. Symptoms may range from quite mild (numbness) to tetany and coma. Physical signs and medical history may help to clarify the underlying disease and causes of hypocalcemia.

We present here a case of a fifty-year-old man who had been complaining of weakness and numbness in his limbs for quite a long period of time. He had undergone many laboratory tests that had no significant findings. Routine blood tests given through the emergency department usually do not include serum calcium level. These tests are given only when there is the suspicion of hyper/hypocalcemia.

Our patient's serum calcium level was low and, after further testing, we found a low PTH level. These findings, together with no history of neck surgery or radiation, indicate primary hypoparathyroidism. Hypocalcemia is the most important consequence of hypoparathyroidism and is responsible for the patient's complaints of weakness and numbness in his limbs.

The exact incidence of primary hypoparathyroidism is unknown but it is quite rare.

When severe manifestations of hypocalcemia are presented, such as coma, tetany, life-threatening hypotension or cardiac arrhythmias, intravenous infusion of a calcium preparation is initiated and may be life saving. In less severe presentations, and as maintenance therapy, oral vitamin D and calcium supplementation are indicated. The patient is advised to follow-up on a regular basis, their physical symptoms and calcium levels.

---

<u>Name</u>	<u>Program Page</u>	<u>Abstract Page</u>
<b>A.</b>		
AbdElhadi F.	4, 8, 9	16, 38, 39
Ali Mustafa A.	8	38
Alon Mozes	6	
Amikam Lev	6	
Amir L.	3, 6	11, 25
Anison Best L.	3	
Antonelli D.	4	17, 18
Antopolsky M.	6	22
Ariel G Bentancur	4	19
Ashkar J.	6, 9	24, 40, 42
Assaf J.C.	4, 6	
Avi Ironi	6	
Avraham Zakuto	4	19
<b>B.</b>		
Barak G.	8	33
Bartov E.	1	
Basis F.	1, 6	23
Ben Yehuda Y.	5	
Ben-Ami Sela	4	19
Ben-Yehuda Y.	3, 6, 7	13, 26, 28
Bentancur A.	4	15
Bentancur A.G.	8	34, 35
Bentur Y.	3, 5	12
Berantz I.	6	26
Bloom-Krasik A.	3	12
<b>C.</b>		
Cezar K.	3, 7	13, 28
Chiporen L.	4	17
Cohen A.	8	35
Cohen I.	2	
<b>D.</b>		
Darawsha A.	8	37
Darawshe A.	4, 8, 9	16, 17, 18, 38, 39
DeKeyser-Ganz F.	3	10
Dinai Y.	5	
Donchin Y.	2	
<b>E.</b>		
Eizenmann A.	5	
Elhayany A.	5	20
<b>F.</b>		
Feldman A.	4, 9	17, 18, 39
Frank T.	5	
Freedberg A.N.	4	17, 18

---

---

<u>Name</u>	<u>Program Page</u>	<u>Abstract Page</u>
<b>G.</b>		
Gabai N.	8	37
Golani D.	5	
Goldberg A.	1	
Goldman D.	7	27
Goldman M.	7	27
Grinstein-Cohen O.	5	20
<b>H.</b>		
Hag E.	5	21
Halevi Y.	1	
Halevy A.	6	25
Halperin P.	5	
Hamerman H.	3	
Harper T.	5	
Hissa H.	5	
Hsu C.	8	29
Huberman H.	6	25
<b>I.</b>		
Iusim S.	6, 9	24, 40, 42
<b>K.</b>		
Kats Y.	4	16
Kogan A.	8	31
Kotzer E.	5	
Kozer E.	7	27
<b>L.</b>		
Lavy G.	7	27
Lev B.	1	
Liberman N.	2	
Linder A.	1	
<b>M.</b>		
Mandel M.	4	19
Matetsky S.	4	15
Medved M.	6	24
Medvedovsky M.	9	40, 42
Michaelson M.	6	23
Mimouni M.	6	25
Molcho Falkenberg Luft T.	3	10
Mor M.	6	25
<b>N.</b>		
Nissanholtz-Ganot R.	1	
Noy A.	4	15

---

<u>Name</u>	<u>Program Page</u>	<u>Abstract Page</u>
<b>O.</b>		
Or J.	3	10
Otits L.B.	6	23
<b>P.</b>		
Peschansky P.	6, 9	24, 40, 42
Pilpel D.	5	20
Pollack S.	6	23
<b>Q.</b>		
Quash M.	8	29
<b>R.</b>		
Rabkin Y.	8, 9	38, 39
Rafalowski C.	8	30
Representative	5	
Riba S.	1	
Ripper J.	8	29
Rosenbloom E.	7	27
Rosenfeld N.	7	27
Rosenfeld T.	4, 8, 9	17, 18, 38, 39
Rotmensch S.	3	
Rouach M.	5, 8	33
<b>S.</b>		
Salamae S.	3	14
Shapira R.	8	31
Shnaider A.	9	39
Simon D.	2	
Slava Gavendo	4	19
Stalnikowicz R.	3, 6	14, 22
Swadron P.	2	
<b>T.</b>		
To Be Announced	6	
Tzadok B.	4, 8, 9	16, 38, 39
<b>W.</b>		
Waisman Y.	6	25
Weisbard E.	8	33
Wimpfheimer Z.	8	34
<b>Y.</b>		
Yahalom S.	8	29
Yussim M.	4	16
<b>Z.</b>		
Zahodin Y.	6	26

---

<u>Name</u>	<u>Program Page</u>	<u>Abstract Page</u>
Zendel A.	8	35
<b>א.</b>		
אייזנמן א	8	32
<b>ב.</b>		
ברוך ה	9	41
<b>ד.</b>		
דובובי ע	8	36
<b>ה.</b>		
הארון י	8	32
הוד ת	8	36
<b>ז.</b>		
זוהר ז	8	32
<b>י.</b>		
יקיר א	8	32
<b>פ.</b>		
פביו צ	8	32
פרץ מ	8	36
<b>ש.</b>		
שביט א	8	36
שטיינר א	8	32
שניר ע	8	36