

# The Irish Institute of Clinical Measurement Science



Edition 2 Summer 2006

## Up and Coming- Scientific Meeting/ AGM

The third Scientific Meeting/AGM is scheduled to take place on Saturday the 16<sup>th</sup> of September 2006 in the Trinity Education Centre, AMNCH, Tallaght. The theme of this year's meeting is "Contribution to Modern Healthcare". We all know that Clinical Measurement is a rapidly growing subgroup within the Health Services. All of the graduates from the BSc in Clinical Measurement have now taken up posts in laboratories around the country with undergraduate students filling many locum posts. Our labs are becoming bigger, busier and better! Clinical Measurement Scientists are increasingly performing more and more complex studies than ever before.

The schedule for the AGM will consist of eight platform presentations, a guest speaker and the AGM. Lunch and light refreshments will be provided. Cost for attendance is €25 for members; €40 for non-members and €10 for students. A late fee applies to registration received after the 4<sup>th</sup> of August. The IICMS event organisers are calling for abstracts from Clinical Measurement Scientists who would like to present either a platform presentation or poster or possibly both. One or more presentation is required from each discipline. Anyone can put forward a proposal for platform presentation/poster; you will be required to submit an abstract with the details of your presentation/poster.

Abstracts are required by the 4<sup>th</sup> of August, with final presentations/posters required by the Wednesday 13<sup>th</sup> of September. Candidates should send a copy of their abstracts to Odette O Flaherty, Conference organiser via email at [Odette.oflaherty@tsuh.ie](mailto:Odette.oflaherty@tsuh.ie)

We are also looking for new bodies to join the executive committee of the IICMS. Each member of the IICMS should by now at this stage have received an AGM pack with a nomination form. Nominations are open to all paid members of the IICMS. It is always of value to see new faces joining the committee and bringing in fresh ideas. Please don't feel that just because you have no experience in sitting on a committee that you can't nominate yourself!! **No experience is required!** The more experienced and established members of the committee are happy to offer advice to any new members and gladly welcome new faces. So, if you think you would like to become involved in the **promotion of your profession** or having read some of the topics in this newsletter feel you have something to add or can think of different approach to matters; the IICMS executive committee is the place for you. Nomination forms are to be completed and again returned to Odette O Flaherty at [Odette.oflaherty@tsuh.ie](mailto:Odette.oflaherty@tsuh.ie) before the 4<sup>th</sup> of August.

It is important to remember that at least one representative from each discipline is required on the committee. **Please don't just think someone else in your discipline will nominate themselves- nominate yourself first!!!**

We also hope to launch the new IICMS website, [www.iicms.org](http://www.iicms.org) at the AGM. We aim to have a work station set up to allow attendees browse through the site. The website committee and webmaster will be on hand to answer any of your questions. The website is going to play a big part in the future of the IICMS with allowing you to renew membership online, download important IICMS documents and newsletters and keeping you up to date with new developments.

If you have any queries about abstracts/posters or nominations you can email the IICMS at [info@iicms.org](mailto:info@iicms.org) or the Conference Organiser at [Odette.oflaherty@tsuh.ie](mailto:Odette.oflaherty@tsuh.ie)

We look forward to seeing you all there!



## Education:

In the last edition of the newsletter we discussed the role of the IICMS Education sub committee and the issue of post graduate training for the BSc students. Since then the committee have been continuing to examine training issues. They recently distributed a letter to all teaching labs in Clinical Measurement throughout the country discussing the review of the BSc in Clinical Measurement Science.

The course is now under academic review. Many of the teaching labs have been accepting both 3<sup>rd</sup> and 4<sup>th</sup> students on clinical placement since 2004. This has been a learning experience for everyone.

Finding placements for students has been an ongoing issue. Also a clinical placement of 8 weeks in 3<sup>rd</sup> year in three of the discipline followed by a further 12 weeks in a single discipline in 4<sup>th</sup> year has been insufficient for the students to be eligible to sit professional competency qualification exams in any of the disciplines. Cardiology is the exception with some students taking the ASCT part 1 examination.

Academic review of the course offers us the opportunity to change the current course for the better & the Committee has made a number of recommendations to DIT. These include:

- A full syllabus review, in particular the anatomy, physiology and biochemistry modules in year 2. Students on 3<sup>rd</sup> year placements have been found to have insufficient underpinning knowledge to make the most of the placement. This is a major issue in Vascular and Neurophysiology, but the syllabus review will encompass all of the disciplines.

- Increase clinical placement period in year 4 to approx 12 months in one discipline.

- The lectures for 3 disciplines taken in 4<sup>th</sup> year plus the instrumentation and other required modules would be delivered in a "bloc release" format over periods of approx 2-3 weeks each. The students would be released from placements to attend these blocs in DIT.

The Education committee sees the benefit of the above changes as follows:

- Review and amendments to the core syllabus particularly in the 2<sup>nd</sup> year will better prepare students for their clinical placements.

- Increase of clinical placement in the 4<sup>th</sup> year to 12 months in a single discipline mean students will be properly prepared and gained sufficient experience to attempt professional competency examinations; they could therefore graduate with the BSc and professional exams. This would make graduates a more attractive employment option and also broadens the accreditation options for the course particularly for graduates who may seek future employment within the UK.

- Offering the specialist module lectures during the 4<sup>th</sup> year in "bloc release" format creates a planned structure on the 4<sup>th</sup> year of the course. Clinical practitioners involved in delivering the specialist material at these blocs will know 12 months in advance the dates for the module. This ensures lecture rooms can be pre-booked and handout material prepared and printed in advance. The DIT clinical tutor could make a significant contribution.

- As the 4<sup>th</sup> year students will be spending 12 months in one lab during their clinical placement they will become an integrated part of the lab and be of significant practical experience. Students could create their clinical portfolio's in preparation for professional exams during this time. Overall these changes should make accepting students into a training lab a more attractive option than that pertaining at present. 12 month clinical placements would open the possibility of involving interested training labs throughout the country and not just mainly the Dublin Hospitals. If the student knows they are going to be placed in Galway or Cork for a full year they can seek accommodation in the area in advance of the placement.

- To ensure all students get gold standard training it is important that numbers in the course are limited to approx 20 students.

If you have any comments on the above you can email the Education Committee at [info@iicms.org](mailto:info@iicms.org).

## Case Study- Cyclical Vomiting v's Complex Partial Seizures

The below patient had what appeared to be GI symptoms but was in fact having complex partial seizures. He is just one example of many displaying the importance of clinical measurement in diagnostics.

A six year old boy presents with cycles of vomiting and eye twitching. Vomiting was occurring every 2-3 weeks and lasting for up to 6 days. He was referred to the GI Department for investigation of Cyclical Vomiting Syndrome. After examination in the department by the GI Consultant he was noted to be frequently retching with twitching around the left eye with rhythmic rubbing of the palms. He was then urgently referred to Neurology for consultation, and EEG for the investigation of Partial seizures with vomiting.

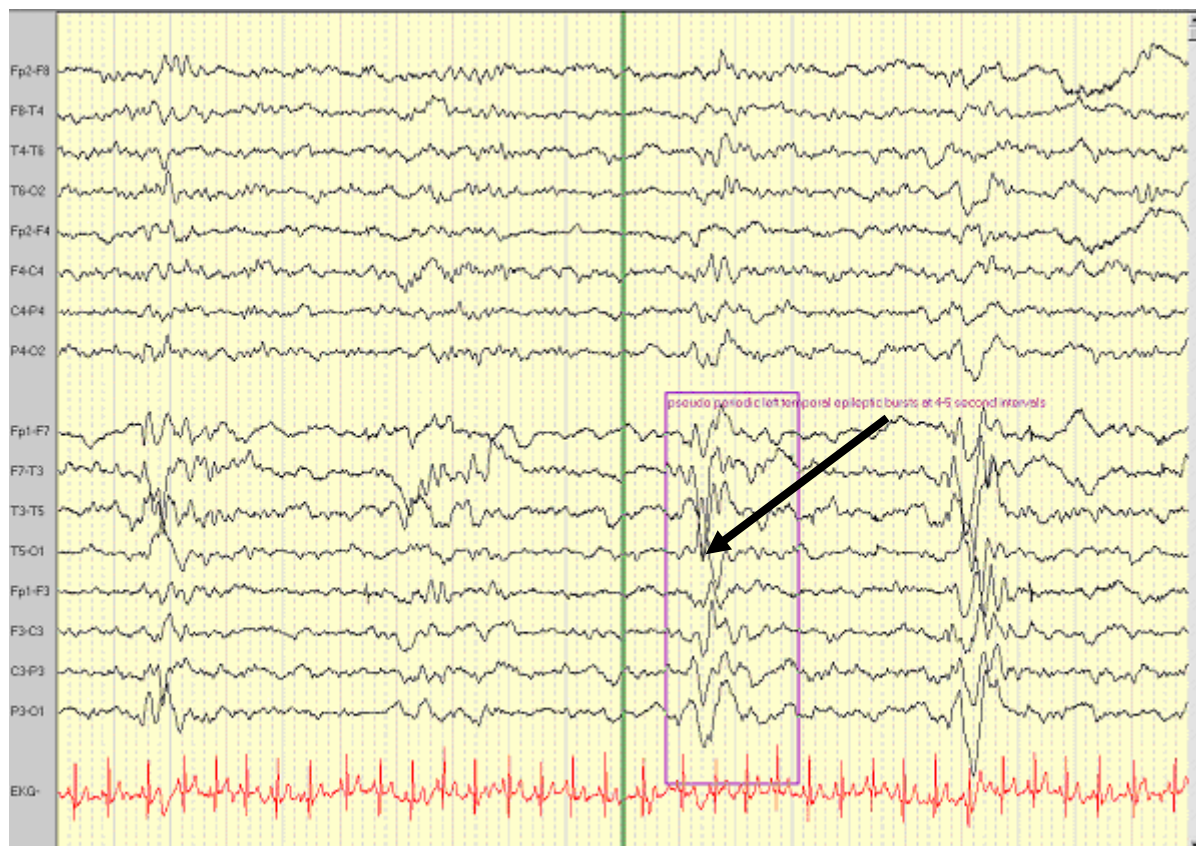
### **Neurophysiology Studies performed:**

**EEG-** A sleep EEG was obtained. Background in sleep was frequently interrupted by pseudo periodic left temporal and central discharges. Some of these discharges are associated with right hand myoclonus. Clinical seizure events were captured during EEG with twitching of the left eye, fumbling and gulping associated with brief retching. During one of these clinical events a probable onset is noted in the right centro-parietal leads which spreads rapidly to the left side. Appearance of polymorphic delta activity with intermixed spikes is then seen for the duration of the event in the left hemisphere with relative attenuation of the right side.

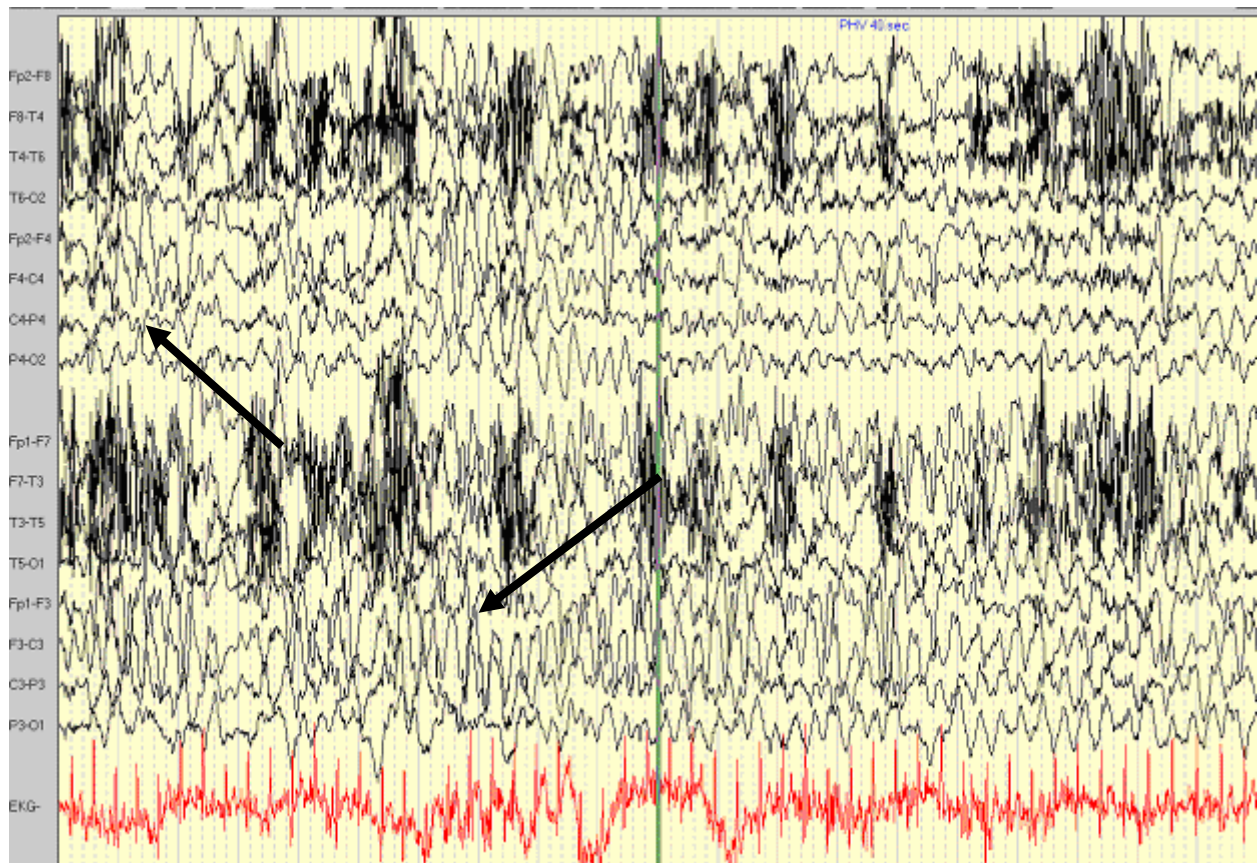
CT brain was normal. MRI revealed evidence of left Hippocampal sclerosis. Patient was started on anti-epileptic medication following the EEG. A diagnosis of Symptomatic Partial Epilepsy with left Hippocampal sclerosis was made. Seizure control on medication has been poor; with patient currently on polytherapy including Frisium, Tegretol, Topamax and Keppra. Seizures now also involve motor twitching of the right upper limb. Surgical treatment is a possibility in this case.

Ictal vomiting in association with left temporal lobe seizures is rare.

### **Fig 1: Pseudo Periodic left temporal epileptiform bursts at 4-5 second intervals**



**Fig 2: During Seizure Event, Build up of polymorphic delta activity – Initial 20 seconds of seizure seen below.**



### **What is Cyclical Vomiting Syndrome:**

Cyclic Vomiting Syndrome (CVS) is an unexplained functional digestive disorder characterized by recurrent, prolonged attacks of severe nausea, vomiting and abdominal pain. Vomiting occurs at frequent intervals (5-10 times an hour at the peak) for hours to 10 days (1-4 most commonly). Onset is usually between 3-7 years of age. It can persist for months to decades with episodes recurring several times a year or several times a month. Episodes typically start during the night or early morning.

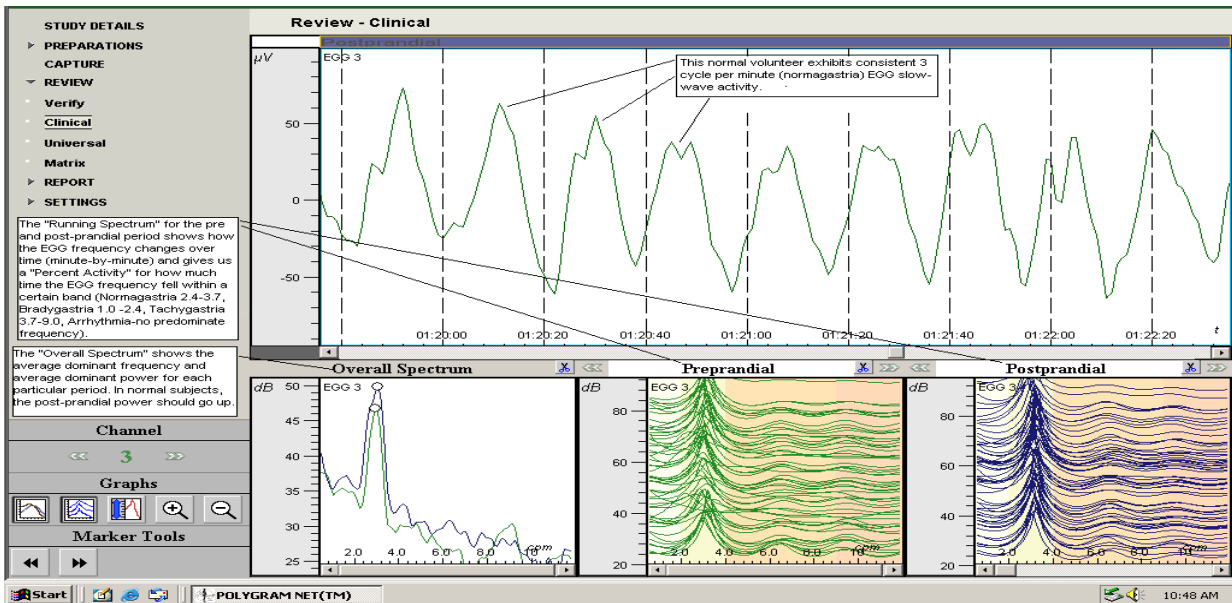
Symptoms include relentless nausea with repeated bouts of vomiting or retching, intense abdominal pain, pallor and often patient resists talking. The symptoms are frightening to the child and family and can be life-threatening due to dehydration and electrolyte imbalance.

CVS has been difficult to diagnose because it is infrequently seen in clinical practice and no specific procedure is used to diagnose the disorder.

Patients with suspected gastric motility dysfunction can be detected by monitoring the myoelectrical activity of the stomach using a procedure known as Electrogastrography (EGG). Electrogastrography is the recording and measurement of gastric myoelectrical activity from electrodes placed on the surface of the epigastrium.

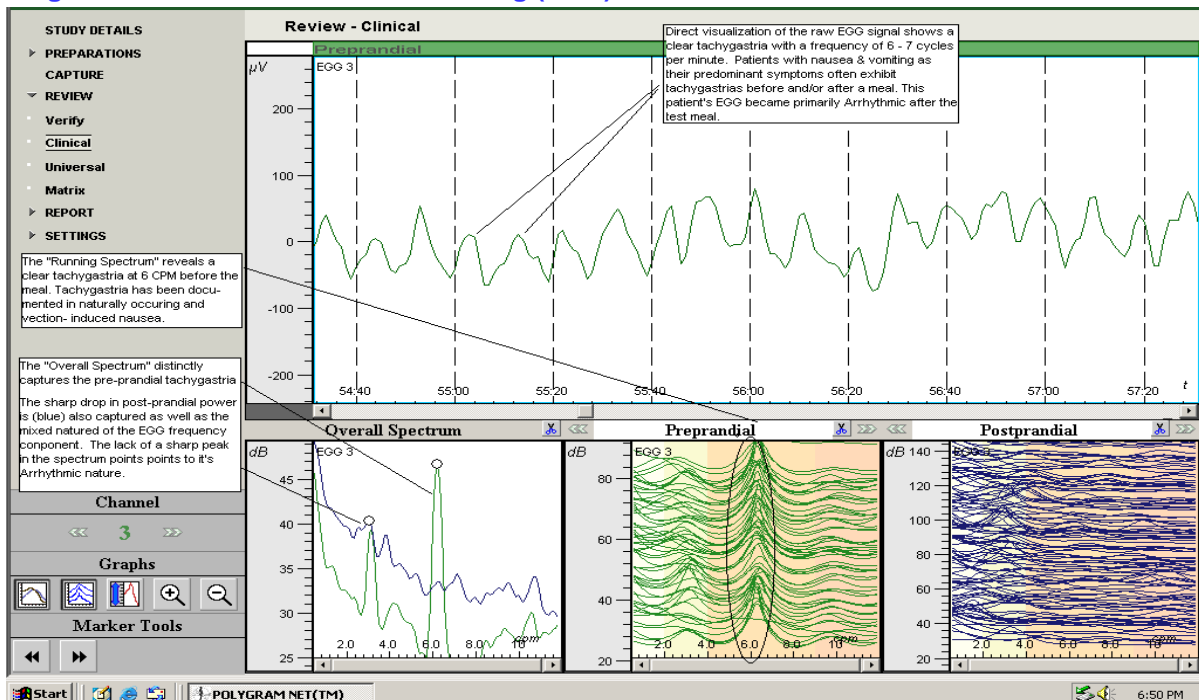
Normal electrogastrograms (EGGs) reflect 3 cycles per min (cpm) gastric myoelectrical activity produced by specialized pacemaker cells, the interstitial cells of Cajal, located in the muscular wall of the gastric corpus and antrum. Gastric dysrhythmias (tachygastrias and bradygastrias) are disturbances of the normal gastric pacesetter potentials and are associated with symptoms of nausea, epigastric fullness, vomiting and bloating and with hyperglycemias and delayed gastric emptying. The EGG is usually evaluated in terms of changes in the EGG amplitude and frequency. (Fig 1)

**Fig 2: Normal study- EGG**



Children with cyclic vomiting syndrome have a characteristic periodicity, and this could be due to abnormal gastric myoelectrical activity detectable by cutaneous electrogastrography (EGG). Studies have shown that accelerated gastric rhythm was seen during the acute episodes of half of the CVS patients studied. Abnormal EGGs were associated with delayed gastric emptying in the CVS children. Abnormal gastric myoelectrical activity may play a role in the pathogenesis of CVS syndrome.

**Fig 4: Patient with Nausea and Vomiting (EGG)**



If you have an interesting case study that you would like to include in the newsletter, please send the details to [info@iicms.org](mailto:info@iicms.org).

## Clinical Tutors:

The successful candidates for Clinical Tutor posts are now in place.

Tutors have successfully been placed in Neurophysiology, Respiratory and Cardiac.

The Neurophysiology Clinical Tutor is Maresa Mc Gee; for Respiratory is Maria McNeill and for Cardiac is Sharon Donoghue.

The Clinical Tutors will have a large bearing on the 3<sup>rd</sup> year students. They will be responsible for delivering lectures; setting and correcting examination papers; assisting in co-ordinating the 3<sup>rd</sup> year placements and visiting both 3<sup>rd</sup> and 4<sup>th</sup> year students during their placement. They are also undertaking to develop a training manual available both students undertaking placements and laboratories who are willing to accept students. They have an enormous role to play in the development of the course and we wish them the best of luck during their time as Clinical Tutor.

The Vascular clinical tutor post remains **empty!** I will remind you that Vascular medicine is a large part of the BSc in clinical measurement and failure to recruit a tutor puts students undertaking the vascular module at a distinct disadvantage. They will be unable to avail of the new support mechanism being provided by the tutors in the other areas.

The IICMS Education Committee is already aware that students coming into placements in both 3<sup>rd</sup> and 4<sup>th</sup> year have insufficient underpinning knowledge to obtain the full benefit from that placement. Having the Clinical Tutors will aid in solution to this problem.

### Summer Locums

#### GI Locum Post Available

Would you be interested in a locum Clinical Measurement post in GI?

Patricia Lawlor is looking for a Clinical Measurement Scientist to fill a locum post for a period of two months in the GI Function Unit from 21/08/06 - 30/09/06.

No experience is necessary as training will be provided.

If you are interested please contact the unit on phone 01-4162888 or email [gifunction@stjames.ie](mailto:gifunction@stjames.ie) ASAP

### Email Alerts

Would you like to receive your IICMS Newsletter via email?

The Newsletter is now available by via email. Receiving the newsletter by email will make the whole distribution process a lot easier. If you would like to receive your newsletter by email please send your details to [info@iicms.ie](mailto:info@iicms.ie).

A reminder email will be sent to all members who we have current emails addresses.

## The IICMS Committee

**Chairperson:** Michelle Agnew  
(Resp Lab, St James Hospital)

**Vice Chair:** Lynette O Sullivan  
(Cardiology, Mater Hospital)

**Past Chair & Education Chair** Ann Coughlan (Neuro, OLHSC)

**Treasurer:** Dermot Murphy  
(Vascular, Beaumont Hospital)

**Newsletter:** Jacinta Kearns (Neuro, OLHSC)

**Membership Secretary:** Trish Lawlor (GI, St James)

**Conference Organiser:**  
Odette O Flaherty (Neuro, TSH)  
Maresa Mc Gee (Neuro, AMNCH)

Please remember if you would like to nominate yourself for the IICMS committee please fill in the form sent to you by Odette O Flaherty. This nomination form will be available on [www.iicms.org](http://www.iicms.org) by the beginning of August.

**The Irish Institute of Clinical  
Measurement Science**

