Welcome

Welcome to the March 2014 edition of New Wave. If you have any relevant articles of papers that you would like to be included in future editions, please email them to warren.jackson@hey.nhs.uk

CPD:

Accredited Independent Practitioners of AGIP are required to submit their CPD activity to cover the period 1st May 2012 to 30th April 2014. Detailed instructions are available on the BSG website, follow the links: Sections; AGIP; AGIP membership, where Forms 8, 9 and 10 are available. There is a strict deadline for submissions of 1st May 2014. Late submissions will incur an administration fee of £50 and the committee will be obliged to suspend the title of any Accredited Independent Practitioner until the required CPD information is received.

CALL FOR NOMINATION OF AGIP COMMITTEE MEMBER(S) 2014:

Please note that there are currently vacancies to sit on the AGIP committee. The elections will take place during the AGIP AGM on 18th June 2014 at the Manchester BSG meeting (nomination form attached).

'HRAM - uses, advantage and the future'
Karen Nugent, Senior Lecturer Southampton University

In order to understand and treat disorders of defecation we need a good understanding of the interplay between the anatomy and physiology of the anus, rectum and colon. There are no perfect tests to measure physiology or function but anorectal physiology tests allow us to study the motor and sensory aspects of the anus and rectum with some interaction.

Two of the main functional problems which tax a clinician and patient are incontinence and constipation; the pathologies underlying these symptom complexes can be varied and complex. Incontinence may exist with a relatively normal anus but colonic pathology such as ulcerative colitis resulting in loose and urgent stools, or rectal compliance or sensitivity issues, may leave the patient symptomatic. Symptoms themselves are poor indicators of anatomy or physiology and attempts to understand these further has led to refine our tests.

Unlike the original manometry systems which utilised a small number of
unidirectional sensors the HRAM equipment uses closely spaced circumferential sensors which allow mapping of pressures at rest and during dynamic manoeuvres. HRAM is used to measure anal pressures, anal sensation; rectal sensation to distension and compliance as well as an assessment of anorectal and pudendal reflexes. Alongside the development of HRAM, 3D ultrasound has allowed us to confirm structural changes within the anal sphincter and pelvic floor.

High resolution manometry (HRAM) catheters can be solid state or water perfused. The water perfused are single use catheters but normal values between the 2 systems may vary. The sensors on solid state catheters are located close together and provide a continuum of data acquisition without loss of information. The display provides colour topography with better resolution and easy interpretation especially for patients when used for biofeedback. The probe is left stationery within the anal canal during the testing and this is more comfortable and eliminates the patient’s anal movement which occurs as a probe is moved. The configuration of the sensors allows radial as well as circular pressure measurements.

![Solid state catheter](Image)

![Water perfused catheter](Image)

Work from Rao’s unit in the United States has found a good correlation of newer HRAM with water perfused manometry although values are greater. The benefits of HRAM include an ability to visualize the pressures of the anal canal showing axial and circumferential asymmetry, and understand the contribution from the external sphincter and puborectalis.

![Vector manometry](Image)

This has allowed us to understand that the sensorimotor response during the recto- anal inhibitory reflex is a result of puborectalis contraction (Cheeney et al. Am J Physiol Gastrointest Liver Physiol 2011:300:G236)

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Sandhill Scientific Clinical Training Seminar

INVITATION

Charing Cross Hotel (Canterbury Room), The Strand, London, WC2N 5HX
Tuesday, 30th September – Thursday, 2nd October 2014

Our GI Motility Seminars offer you the opportunity to increase your Continuing Personal or Professional Development with our Training Courses, as follows:

Day 1 - Introduction to Impedance/pH Reflux Testing  
Tuesday 30th September 2014

Day 2 - High Resolution Impedance Manometry (HRIM)  
Wednesday 1st October 2014

Day 3 - Introduction to Impedance/pH Reflux Testing  
Thursday 2nd October 2014

CPD: CPD accreditation for all 3 days of the Seminar is being applied for.

FACULTY: Jean Osborn, BSN RN (Clinical Education & Training, Sandhill Scientific)

REGISTRATION FEES (Up to 20% discount available for booking more than 1 day)

1 DAY ONLY .................... £120.00

ANY 2 DAYS ..................... £200.00

ALL 3 DAYS ...................... £285.00 (Please note that Day 3 is a repeat of Day 1)

Fees includes VAT, registration, lunch, morning/afternoon tea/coffee, handbook, Certificate of Attendance
Figure 4: conventional vs HRAM - RAIR

HRAM and the pictorial view is useful in biofeedback therapy. There appears to be a better correction of dyssnergia compared to standard treatment.

Figure 5: HRAM tracing showing good resting and squeeze pressures

Figure 6: HRAM showing effect of bearing down

Rao has used the new HRAM system to classify defecatory disorders by using a prolonged balloon expulsion test.
Studies have also shown a good correlation when evaluating anal sphincter defects with endoanal ultrasound. Finally HRAM is useful in subtyping defecatory disorders in order to direct appropriate therapy.

In summary HRAM can delineate function in greater detail and allows us to scrutinize pathophysiology in greater detail allowing us to provide new classifications especially within defecatory disorders. The coloured pictures are especially useful in biofeedback. More prospective studies will collect information on the usefulness in both common and rare disorders.

**EQUIVALENCE: FIRST AGIP MEMBER TO BE REGISTERED WITH HCPC FOLLOWING ACADEMY’S EQUIVALENCE PROCESS:**

Huge congratulations to Lynne Smith for becoming the first AGIP member to be registered with the Health and Care Professions Council after successfully completing the Academy for Healthcare Science's Equivalence assessment.

For information about the equivalence process - [http://www.ahcs.ac.uk/equivalence/](http://www.ahcs.ac.uk/equivalence/)

For guidance on the equivalence process - [http://www.ahcs.ac.uk/equivalence/equivalence-guidance/](http://www.ahcs.ac.uk/equivalence/equivalence-guidance/)

The STP Equivalence process for healthcare scientists has been developed and is currently being piloted by the Academy for Healthcare Science. They will shortly open the process to potential candidates. To make sure it goes as smoothly and efficiently as possible, they would like to know what the take up might be and if you would be interested in making an application.

Click on the link below to go to the Academy website to answer three quick questions and register your interest. If you leave your email address they will be able to keep you updated with information and briefings. [www.ahcs.ac.uk/equivalenceEOI](http://www.ahcs.ac.uk/equivalenceEOI)

The STP Equivalence route is the first to be developed by the Academy and once it is in place, work will begin on PTP and HSST routes.

If you have any queries, please email Alun Williams at [alun.williams@ahcs.ac.uk](mailto:alun.williams@ahcs.ac.uk)

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**How to do it: Correct, comfortable, effective nasal intubation**

Mark Ferguson Bsc (hons) MB BS (Lond) MRCS (Eng) DOHNS
ENT Registrar at The Royal National Throat, Nose and Ear Hospital, London

Clinical GI Physiologists are frequently required to insert pH manometry tubes often in the absence of any other medical staff. This article attempts to outline the key steps in this process and suggest tips that will hopefully make this process as pain free as possible for your patients and as stress free as possible for you! It mainly concentrates on the probe’s passage through the nose as it is this stage that can be most easily optimised. Figure 1 illustrates the overall route of the probe through the upper aerodigestive tract.

Obviously the patient needs to be adequately consented before the start of the procedure and this should definitely involve a discussion of what will happen and why it is being done.

Increasingly in surgery we are asked to mention any serious risk however uncommon and indeed the risk of mortality. Now clearly, the risk of mortality from insertion of a pH manometry probe is so rare as to serve no purpose whatsoever other than to scare the patient. But certainly nasal pain, bleeding, and throat discomfort are reasonable and commonly occurring complications. Furthermore, the very uncommon but very significant risk of pharyngeal or oesophageal perforation should be mentioned, clearly this risk is much more likely if the patient has existing hypopharyngeal or oesophageal disease.

Once this has been done the nose must be
prepared and there are a variety of products available. There is no compelling evidence to suggest one over the other, any preparation should be sufficient so long as it has a decongestant and a local anaesthetic in it eg co-phenylcaine (5% lignocaine with phenylephrine). Having allowed a few minutes for the nasal preparation to work the next step is to examine the nose. I am fully aware that you may not have the kit to fully examine the nose but I do think that an inspection of the caudal septum is required. This is easily achieved by elevating the tip of the nose gently with your finger whilst shining a light into either nares (Figure 2). The purpose of this is to determine whether or not there is a significant anterior septal deviation to one side or the other. It will not be possible to see the course of the septum further back in the nose but there is more room posteriorly and so septal deviations matter less. There could be other barriers or issues further back in the nose such as inflammatory polyps, septal perforations, excessive crusting or friable lesions or very rarely tumours. But the existence of any of these problems should have been discovered well before the patient has reached you for pH probe placement but equally there is no harm in asking about a previous history of polyps, nasal bleeding, septal surgery (a cause of septal perforation) or nasal whistling (a sign of a septal perforation).

Pass an appropriately lubricated probe into the side of the nose with most space anteriorly (ie the side the septum deviates away from). Remember that the nose runs horizontally back (Figure 3). Pass the tube in a smooth slow manner, the distance from the tip of the nose to the back of post nasal space in an adult is roughly 12 to 14cms. As you will be familiar the probe snags around this distance after nasal cannulation as the probe hits the post nasal space and is deflected down past the free edge of the soft palate. At this point as you feel the increased resistance as the probe starts to deflect down it is helpful to ask your patient to “sniff”. The act of sniffing (to sniff is to draw air through the nose) will cause the free edge of the soft palate to move antero-inferiorly leading to an increased space between it and the posterior pharyngeal wall for the probe to move more easily and less painfully down. Indeed it is this step that many people with sensitive gags find most difficult and asking them to sniff at the correct time can greatly help with their compliance. Figure 4 demonstrates both in diagrammatic and endoscopic form the post nasal space and the free edge of the soft palate.

After this point, once the probe has successfully enter the oropharynx there is, in almost every patient, a straight forward “drop” down into the oesophagus. If there are any problems at this stage or the patient has known problems in the hypopharynx or upper oesophagus I think that the probe should probably be put in under direct vision by an appropriate healthcare professional. However if no issues are anticipated, or occur, then during the rest of this blind procedure the patient should be asked to continuously swallow whilst the probe is slowly advanced down. It should easily enter the oesophagus after which it can be advanced to its intended position and investigations undertaken to confirm the location of the probe.

Figure 1: The Route of the pH probe is shown in the figure as the black line
Figure 2: With adequate lumination, gentle pressure on the tip of the nose should reveal any gross deviations of the caudal septum

Figure 3: The black line shows the route of the pH probe running under the inferior turbinate, horizontally back in the nose over the free edge of the soft palate
Figure 4: (a) endoscopic view of the post nasal space showing the free edge of the soft palate which will move antero-inferiorly when the patient is asked to sniff, increasing the gap between the free edge of the palate and the posterior pharyngeal wall.

Figure 4: (b) diagrammatic representation of figure 4 (a)
ASSOCIATION of GI PHYSIOLOGISTS
of the BRITISH SOCIETY OF GASTROENTEROLOGY
CALL FOR NOMINATION OF AGIP COMMITTEE MEMBER 2014

A vacancy has arisen on the AGIP Committee.

All AGIP members are eligible to nominate candidates for the AGIP Committee but the proposed member must have AGIP accreditation and registration with RCCP or other recognised registration body.
The elections will take place during the AGIP AGM on 18th June 2014 at the Manchester BSG meeting.

NOMINATION FOR AGIP COMMITTEE

I wish to nominate ________________________________

Address_________________________________________

As a committee member for the ASSOCIATION OF GI PHYSIOLOGISTS of the BSG.

Proposer_________________________________________

Signature________________________________________

Candidate________________________________________

Signature________________________________________

PERMISSION TO NOMINATE THE CANDIDATE MUST BE OBTAINED OR THE NOMINATION WILL BE REJECTED.
IF YOU WISH TO NOMINATE MORE THAN ONE PERSON, PLEASE PHOTOCOPY THIS FORM.

TRAINEE MEMBERS AND STUDENTS ARE NOT ELIGIBLE FOR NOMINATION.

PERSONAL PROFILE OF NOMINEE:
To be attached to nomination form.

Please return this form to:
Dr Etsuro Yazaki
The GI Physiology Unit
3rd Floor Alexandra Wing
The Royal London Hospital
Whitechapel
London E1 1BB
International Masterclass on Lower GI Function Testing
Queen Mary University of London, Whitechapel Campus

10th & 11th July 2014

Speakers include: Dr Mark Scott, Professor Charles Knowles, Ms Emma Carrington, Mr Andy Williams, Prof J Jones, Dr H Heinrich, Dr A Emmanuel, Dr A Hobson, Prof K Krogh, Dr S Taylor

This course is designed to enhance knowledge of function testing of the colon and anorectal order to improve test performance in daily clinical practice. The course is ideal for pelvic surgeons, urogynaecologists and gastroenterologists with an interest in bowel function disorders.

Please contact us on 01494 721820 or email rachel@ardmorehealthcare.com for further information. Please note that places are limited so don’t delay, contact us today for a registration form.

Sponsored by:

Forthcoming Events:

We hope to publicise forthcoming meetings and educational events. We would like to invite interested parties to contact the NewWave editor (warren.jackson@hey.nhs.uk) to have their details included in future issues.

April - Dec 2014

Medical Measurement Systems (MMS) web seminar schedule for 2014: [All webinars are 3.00-4.30pm CE(S)T - Amsterdam time]:

Urodynamics:
Wednesday 11th June
Tuesday 16th September
Wednesday 17th December

Impedance-pH:
Wednesday 23rd April
Tuesday 7th October
Wednesday 29th October

Advanced HRM case interpretation:
Thursday 17th April
Thursday 15th May
Tuesday 17th June
Thursday 4th September
Thursday 13th November
Thursday 11th December

High Resolution Anorectal Manometry (HRAM):
Thursday 3rd April
Thursday 6th November

High Resolution Oesophageal Manometry (HRM):
Wednesday 14th May
Thursday 16th October
Wednesday 19th November

Each session is FREE of charge:
14th May 2014  St Thomas’ Hands-on Endoanal Ultrasound Study Day
Further information telephone: Deepa Solanki / Monica Lyons 0207 1889918 / 0207 188 9899

22nd - 23rd May 2014  Capsule Endoscopy in Clinical Practice (Spring Course)
(Pillicam system) Lumley Castle Hotel, County Durham
http://www.diagmed.co.uk/documents/LumleyCapsuleCourseRegistartionForm2014.pdf

16th - 19th June 2014  British Society of Gastroenterology Annual Meeting
Manchester Central Convention Complex
[Registration Now Open, Early Bird Deadline: now passed
Accommodation Booking Deadline: 25 April 2014]

10th – 11th July 2014  International Masterclass on Lower GI Function Testing
Queen Mary University of London, Whitechapel Campus, London
%20London%20July%202014%20UK%20version.pdf

**See attached advert in this edition of NewWave!**

30th Sept–2nd Oct 2014  Sandhill Scientific Clinical Training Seminar
Day 1: Introduction to Impedance/pH Reflux Testing
Day 2: High Resolution Impedance Manometry (HRiM)
Day 3: Introduction to Impedance/pH Reflux Testing
Charing Cross Hotel (Canterbury Room), The Strand, London,
Email for further information: sales@synmed.co.uk

18th – 22nd Oct 2014  United European Gastroenterology (UEG) Week
Vienna, Austria
www.ueg.eu/week

13th - 14th Nov 2014  Capsule Endoscopy in Clinical Practice (Autumn Course)
(Pillicam system) Lumley Castle Hotel, County Durham
http://www.diagmed.co.uk/documents/LumleyCapsuleCourseRegistartionForm2014.pdf