

Celebrating Integrated Success

Division of
Experimental
Medicine and
CPG 6

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Always the optimist, the glass is half-full as Prof Wilkins celebrates integrated success.

Moving forward with CPG 6

It's taken some time (during which there has been a change of Government!) but we are back with another issue of our newsletter. We have a new audience, as we now embrace a new Division as well as CPG6. We could blog and we could Twitter (and maybe one day we will invent a new medium) but we have decided to stick with the tried and tested device of communicating key messages and our successes in one epistle. At least we are not using pigeons.

The Faculty of Medicine has completed its restructuring and is settling down to build for the future on a strong foundation. The new Division of Experimental Medicine with which CPG6 is most closely aligned hosts 5 Centres: Neurosciences; Pharmacology and Therapeutics; Haematology; Mental Health; and Pathology.

An amplified organogram with the associated administration team is available to view on the Imperial College website.

The financial future remains tough and this will affect all parts of the AHSC. We are required and have a responsibility to reduce our cost base, but at the same time preserve quality and patient safety. This will involve some tough decisions and we may have to disengage from some activities both clinically and academically. We are consulting and will continue to have conversations with you using all media formats so that we make changes based on the best information and with a clear direction in mind.

The unifying theme for the Division and the CPG is translational medicine. CPG6 is a giant laboratory with all the tools needed for studies in humans. We have just added one more dimension – molecular diagnostics. We provide the environment to develop and translate our own ideas and assist others – as demonstrated by our returns to the Comprehensive Local Research Network.

The CPG gets money from CLRN to support clinical research. The funding is proportional to our activity and this is measured by the number of studies registered on the national database (http://www.ukcrn.org.uk/index/clinical/portfolio_new/P_how.html). The table gives a comparison of our performance compared to other members of the AHSC. It underlies the importance of keeping the national database up to date. Several appointments have been made on CLRN funding including 2 research nurses, 1 pharmacologist and 1 radiographer. Please make sure to liaise with K Mosley (k.mosley@imperial.ac.uk) to make sure our accrual rate is up to date.

NIHR Registered Clinical Trials

	CPG1	CPG2	CPG3	CPG4	CPG5	CPG6
in set up	13	13	12	15	12	11
in recruitment	29	42	38	35	37	19
in follow up	6	10	4	4	3	2
completed	42	28	41	35	33	55
abandon	4	2	1	1	3	4
inactive	3	1	0	0	2	7
unknown	4	4	4	9	0	0

* Numbers in the table are percentages

The Route to Drug Development

Preclinical

Studies in rodents (and other animal species) looking for evidence of effect as well as an upper limit of safety – the No Observed Adverse Effect Level (NOAEL).

Phase 1 – First time in human

The primary aim is to explore safety and tolerability in humans; doses are gradually increased and vital signs monitored.

Phase 2 – Proof of efficacy

small group of patients with specific doses to identify a series of doses that works.

Phase 3 - Definitive study

Using a larger group of subjects, phase 3 is a demonstration that the drug works - in this case showing a significant and meaningful reduction in weight in the target population. (Licensing requires 2 x phase 3 studies, and drugs can only be licensed for use in the doses used in the study).

Phase 4

Studies conducted when the drug is licensed.



Researchers at the McMichael centre may render personal trainers redundant with a new drug for appetite regulation. PP1420 mimics pancreatic polypeptide (PP), a hormone produced naturally in our pancreas after every meal, making us feel full. After pre-clinical testing on rats, the team, led by Dr Trisha Tan, under Principal Investigator Professor Steve Bloom, is giving the drug to humans for the first time.

Currently in Phase 1, eight carefully selected healthy volunteers, male 18-50, are treated with PP1420, in 3 increasing doses, one dose every 6 weeks, and 4 are given a placebo. The team monitor vital signs, food intake,

body-weight, pharmacokinetic plasma profiles (levels the drug gets to in the body) using state-of-the-art mass spectrometry to determine the relationship between dose and tolerability.

“Perhaps it will give obese people the incentive to lose more weight by exercise”

Carrying out the Phase 1 first-in-man trial academically as oppose to commercially, Prof Bloom is hoping to demonstrate that ‘hospitals can develop drugs and make them a success’.

When asked if they felt they could be

putting personal trainers out of work, Dr Tan insists it will never supersede exercise but perhaps it will give obese people the incentive to lose more weight by exercise

The team would like to thank the senior nurses and staff at the Sir John McMichael Centre for their expertise, for ‘giving us many things to think about and keeping us on the straight and narrow’ says co-investor Dr Field.

The study is funded by the Wellcome Trust, who are currently looking for companies to sponsor phases 2 and 3. For more information, contact Dr Trisha Tan at t.tan@imperial.ac.uk or contact the Sir John McMichael Centre on 020 8383 8082.

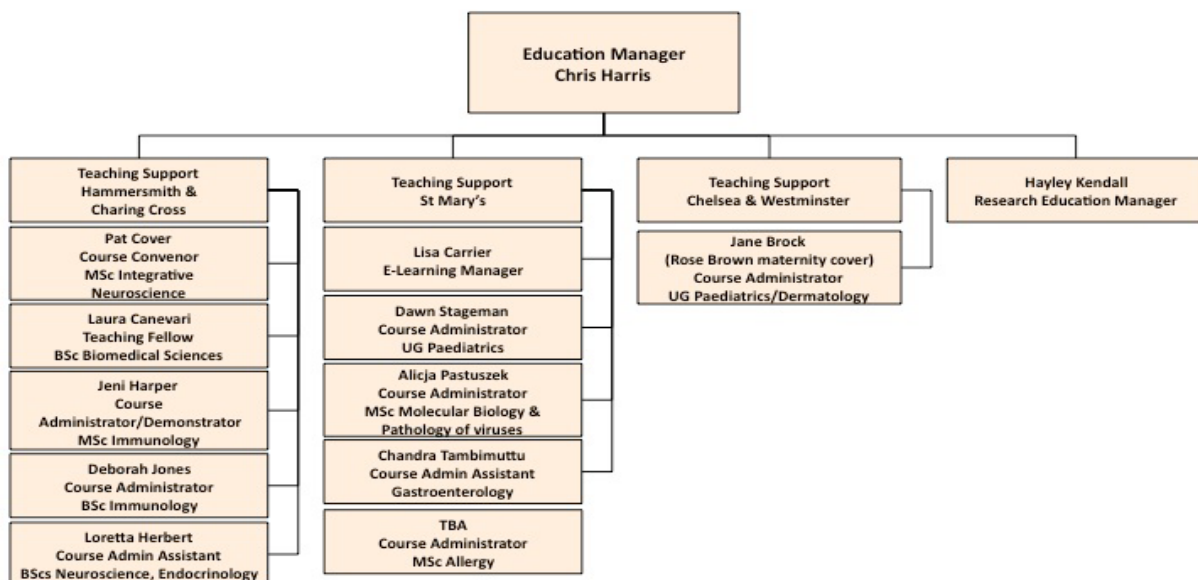
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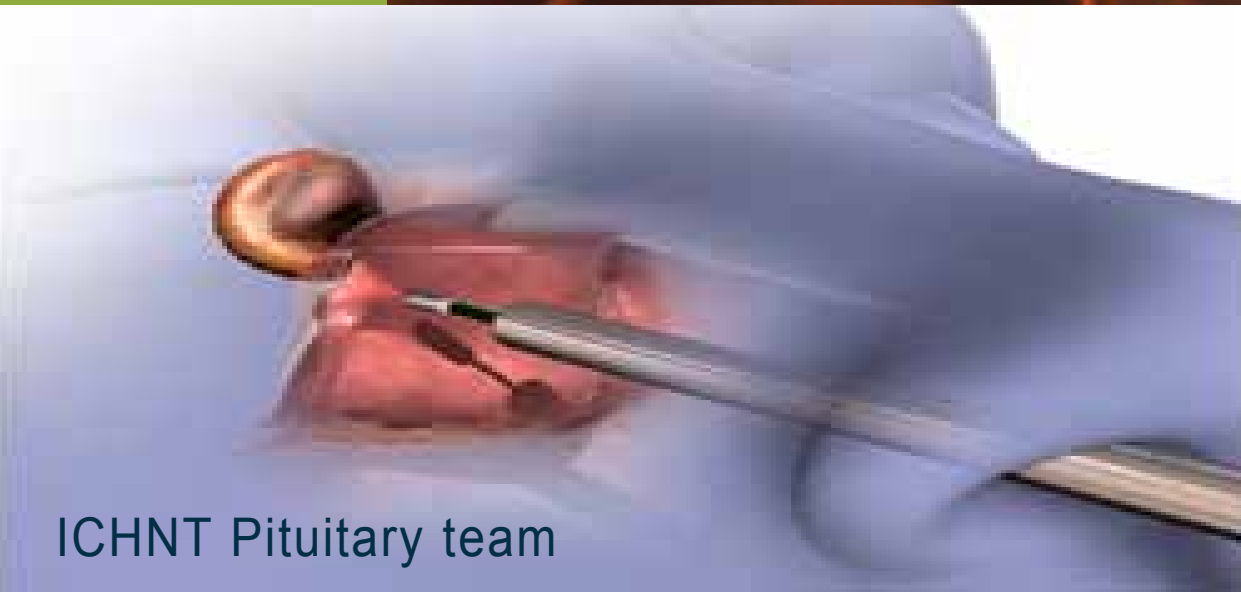
Teaching News

There are many students embedded in the research culture of CPG6. From October 2010, there will be a change to the way in which new research students are registered and assessed. Students will be registered from the outset for the PhD degree (rather than for MPhil and subsequently transfer to PhD), in line with our major competitors in the UK and Europe. Students will be required to complete three assessments: project proposal at 2 months, confirmation at 9 months, and a third progress assessment at 24 months. More information on the new assessment structure will be released shortly.

The table shows the new education support structure in the Department of Medicine. For further information, please contact Chris Harris (c.harris@imperial.ac.uk).

Teaching Support Structure





ICHNT Pituitary team

Dr Niamh Martin

ICHNT pituitary team leads successful bid to become London's leading pituitary cancer service.

The ICHNT pituitary service has been awarded a prestigious contract to become the single centre pituitary cancer service for Surrey, one of the largest primary care trusts (PCT) in the UK. The success of the bid, led by Consultant Endocrinologist Niamh Martin (CPG6), means that all emergency and elective pituitary patients from Surrey will be managed by the ICHNT pituitary service. Following the final selection process between three leading London Trusts, the successful ICHNT clinicians were singled out for particular praise by the Surrey PCT commissioner for

their hard work and commitment. The innovative ICHNT pituitary multidisciplinary team (MDT) meeting uses videolink for interactive discussion between ICHNT sites (Charing

“This is wonderful news for the ICHNT pituitary service and makes us the largest pituitary cancer centre in London”

Cross, Hammersmith and St Mary's), and also with clinicians in neighbouring North West London hospitals such as Central Middlesex Hospital.

Over the last year, endocrinologists from the Royal Surrey County Hospital also joined ICHNT MDT meetings via videolink and shared their enthusiasm for the service with their Surrey colleagues. As Dr Martin explains 'This is wonderful news for the ICHNT pituitary service and makes us the largest pituitary cancer centre in London. The success of the bid reflects a lot of hard work by the pituitary MDT, particularly by Prof Karim Meeran, and Drs Emma Hatfield (Endocrinology CPG6), Amrish Mehta (Neuroradiology CPG6) and Nigel Mendoza (CPG3). This contract will deliver first-class patient care, provide exciting clinical research opportunities, and generate significant revenue for ICHNT.'

New Imaging Equipment

Faizal Mohamed-Hossen

The Imaging Department at Charing Cross (CXH) and Hammersmith (HH) hospitals each acquired a brand new Siemens 128 slice CT scanner as part of the Capital Programme.

The project started last September and was completed in March at CXH and April at HH. Both projects were delivered in time and within budget at a cost of £1.1 million each.

The high-end specification CT scanners are equipped with full interventional and cardiac packages. The cardiac package will allow the departments at CXH and HH to provide a new service which was not previously provided. This

will eliminate the need to transfer patients to the St Mary's site.

The new CT significantly reduces the scanning time for the patients, with reduction in radiation doses. It delivers superior quality of reconstruction of volume acquisition for improved diagnostics capabilities.

The increased capacity has improved patient access, resulting in a same day service for inpatients compared to 4 days wait prior to implementation. Outpatient access has also improved, with current waiting times at 4 days compared to 11 days prior to implementation.

Recent Research Publications

Andersson HM, Arantes MJ, Crawley JT, Luken BM, Tran S, Dahlbäck B, Lane DA, Rezende SM 'Activated protein C cofactor function of protein S: a critical role for Asp95 in the EGF1-like domain.' *Blood*, April 2010.

Luken BM, Winn LY, Emsley J, Lane DA, Crawley JT 'The importance of vicinal cysteines, C1669 and C1670, for von Willebrand factor A2 domain function..' *Blood*, April 2010.

Pavlů J, Kew AK, Taylor-Roberts B, Auner HW, Marín D, Olavarria E, Kanfer EJ, MacDonald DH, Milojkovic D, Rahemtulla A, Rezvani K, Goldman JM, Apperley JF, Szydlo RM., 'Optimizing patient selection for myeloablative allogeneic hematopoietic cell transplantation in chronic myeloid leukemia in chronic phase.' *Blood*, April 2010.

Hajji N, Wallenborg K, Vlachos P, Füllgrabe J, Hermanson O, Joseph B, 'Opposing effects of hMOF and SIRT1 on H4K16 acetylation and the sensitivity to the topoisomerase II inhibitor etoposide.' *Oncogene*, April 2010.

Halsey C, Tunstall O, Gibson B, Roberts I, Graham G, 'Role of GATA-1s in early hematopoiesis and differences between alternative splicing in human and murine GATA-1, *Blood*, May 2010.

Archer, S., Weir, K., Wilkins, M. R., 'Basic Science of Pulmonary Hypertension for Clinicians', *Circulation*, May 2010.

McKinnon TA, Goode EC, Birdsey GM, Nowak AA, Chan AC, Lane DA, Laffan MA, 'Specific N-linked glycosylation sites modulate synthesis and secretion of von Willebrand factor.', *Blood*, May 2010.

Bazeos A, Marin D, Reid AG, Gerrard G, Milojkovic D, May PC, de Lavallade H, Garland P, Rezvani K, Apperley JF, Goldman JM, Foroni L, Khorashad JS, 'hOCT1 transcript levels and single nucleotide polymorphisms as predictive factors for response to imatinib in chronic myeloid leukemia', *Leukemia*, May 2010.

Politis M, Wu K, Loane C, Quinn NP, Brooks DJ, Rehnrcrona S, Bjorklund A, Lindvall O, Piccini P. 'Serotonergic neurons mediate dyskinesia side effects in Parkinson's patients with neural transplants.' *Science Translational Medicine*, June 2010.

Gabriel IH, Sergeant R, Szydlo R, Apperley JF, de Lavallade H, Alsuliman A, Khoder A, Marín D, Kanfer E, Cooper N, Davis J, Macdonald D, Bua M, Foroni L, Giles C, Milojkovic D, Rahemtulla A, Rezvani K 'Interaction between KIR3DS1 and HLA-Bw4 predicts for progression-free survival myeloma.', *Blood*, July 2010.

Recent Research Publications (cont)

Takahashi Y, Shevchuk AI, Novak P, Murakami Y, Shiku H, Korchev YE, Matsue T, 'Simultaneous noncontact topography and electrochemical imaging by SECM/SICM featuring ion current feedback regulation.', J Am Chem Soc, July 2010.

Singh-Curry V, Malhotra P, Farmer SF, Husain M, 'Attention deficits following ADEM ameliorated by guanfacine.', J Neurol Neurosurg Psychiatry, Jun 2010.

CPG6 Newsletters

There is a huge effort across the CPG to maintain and improve the quality of our services and make the necessary savings through improved productivity. Over the next few weeks CPG 6 will be publishing short, one-off newsletters to keep you informed about the hard work in each directorate.

i-respond Campaign

Innovations to improve patient healthcare

Thanks to Liz Wordsworth for information for this article



i-track captures up to the minute feedback direct from the patient. We have recently introduced 3 survey devices within our outpatient departments which are hand held PDA's. Patients are able to rate core aspects of their experience with us and the instant feedback means that we will be able to respond immediately to issues raised by patients and they will see changes made in real time. Below are some examples of our responses to patient requests:

Our Centres for Health asked if they could keep the childhood vaccinations on their stock list; so we sorted this for them.

Our pharmacy staff said that they could not get through to our Medicines Information and Patient Helpline Service following our merger on to one central site. We agreed and are in the process of installing an extra telephone line.

A patient asked why we could not accept chip and pin for the payment of prescriptions charges. We have looked into this and have now installed the facility on the Hammersmith Site and establishing the feasibility on the other sites.

Our staff identified that our out-patient waiting times were longer during the middle of the day. We are reviewing the timing of staff lunches to try and alleviate this.

A ward sister asked if we could put the total volume on all chemotherapy bags sent to the ward. This would help ensure that the chemotherapy was run at the correct rate and did not overrun. We have now done this.

Patients and ward staff have asked why discharge medicines take so long to turn around. To try and facilitate the process we have introduced, on all three sites, a designated afternoon discharge pharmacist.

A patient enquired as to why their prescription for the medications required for their colonoscopy could not be fast tracked. We have looked into the process and have been able to introduce a 'One stop shop' system for this group of patients.

Prizes and Grants Competitions

Molecular diagnostics prizes

Sequencing the human genome in 2001 promised much – new drugs and better diagnostics. Combining the two would lead to personalised medicines, where treatments are tailored to individuals. Ten years on, these promises are gradually being realised.

The key to progress is (a) technology that allows genomes to be sequenced rapidly and cheaply and (b) access to well phenotyped patient groups. Imperial College Healthcare NHS Trust now has state-of-the-art Next Generation sequencing equipment that will allow an individual's DNA (over 3 billion base pairs) to be processed within days at a relatively modest cost. It brings molecular diagnostics closer to the bedside and will power new research projects.

To celebrate and ensure that this new resource is used to its full potential, the Academic Health Sciences Centre (AHSC) Research Committee will be advertising a competi-

tion for research projects. Five prizes of £30K each to allow clinicians and scientists in the AHSC to purchase sequencing consumables allowing complete sequencing of up to 3 human genomes or 10 human exomes will be announced soon. Details will be posted soon.

Imperial College Healthcare Charity Research and Development Grants

The next competition for research grants from the Trustees has been announced. Deadline 8th October. Applications for awards from £5K to £100K are invited for one or two year research projects from staff across Imperial College Healthcare NHS Trust. For enquiries please contact: Caroline Cawson at caroline.cawson@imperial.nhs.uk or Tel: 020 3312 2060. **Important:** Please ensure all applications are properly costed and engage your administrator early to ensure this.

Awards and Promotions

Good News for Haematology!

On Monday 12th July, Leukemia and Lymphoma Research (previously the LRF) unveiled plaques designating us as a 'Centre of Excellence' in the out-patient waiting area in the Catherine Lewis Building, and on the 4th floor of the Commonwealth Building. The 'Centre of Excellence' award is part of the 50th anniversary celebrations of the LLR/LRF and recognises our clinical and scientific achievements over many years. LLR have been long-term funders of Haematology at Hammersmith and we are grateful to them not only for this honour, but also for their support over the past 50 years.



Unveiling the plaque: (Left) Cathy Gilman Chief Executive of Leukemia and Lymphoma Research with Professor Jane Apperley Head of the Centre for Haematology.



Proud winners: Verity Hockey and Yaozu Xiang exhibit their certificates with Professor David Lane.

Prizes for Professor David Lane's PhD students.

Verity Hockey and Yaozu Xiang (pictured left with Professor David Lane) have won prizes for best presentation by a PhD student at the joint meeting of the Dutch and British Societies for Thrombosis and Haemostasis, held at Noordwijkerhout, the Netherlands, between 23-25 June.

Verity presented on 'TFPI inhibition of factor Xa and its enhancement by protein S', and Yaozu on 'Identification of novel VWF A2 domain residues contributing to ADAMTS13 substrate specificity'. They won 2000 Euros each to be spent on attending a meeting.

CPG-6 i-recognise awards

The team award this quarter was won by the Pharmacy Medicines Information and Medicines Management Team of the directorate Pharmacy.

In November 2009, the previously three separate teams based on the individual hospital sites were amalgamated into a single group based at Charing Cross to provide a central advisory service. The move impacted significantly on individual members of staff. A number had to change base location and a new, smaller team of staff found themselves with an expanded range of duties. Throughout the massive change process, the team worked closely together to ensure a smooth transition. The change was largely self-managed, seamless and without disruption to the levels of service. Overall the team are commended for demonstrating high standards of professionalism, exhibiting good grace and maintaining their excellent level of service and patient care. The team exemplified the Trust values especially with regard to achievement, pride and innovation.

The individual award goes to Amal Fadli from the Directorate Imaging for demonstrating outstanding achievement in the category patient experience.

A patient arrived at 5PM for an ultrasound test of the testis. He was told that the department was closing and to return the next day. Amal noticed that the patient was in pain as he was walking with difficulty. She asked the patient to wait and arranged for the test immediately. A large tumour was found, he was referred and surgery was done without delay.

CPG-6 i-recognise awards are awarded quarterly, the next winners will be announced in October.



Congratulations to:

Jane Apperley, who was named 'Academic Researcher of the year' by Good Clinical Practice Journal.

The Division of Experimental medicine who have been top of the grants table for the past two months running.

Dr Jim Crawley, who has been promoted to Senior Lecturer as of 1st October.

Weston Ward, which has been commended in the OSC&R (Outstanding Service, Care, and Research Awards) February—April 2010.

The respiratory physiotherapy team at SMH won the Trust's annual award for excellence in patient care.

Jo Dafforn, Mary Jo Burke, Laura Burgess and the limb fitting team were successful in the Trust OSCAR's

Davina Richardson & Jo Bradley were part of the NHS London team that were runners up in the National AHP Leadership

Donna Kennedy won the 'Best Scientific Paper Session' at the American Society of Hand Therapists Conference.

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