

Centre for Obesity
Research and Education
(CORE)
Annual Report 2008



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The mission of CORE is to understand the disease of obesity and to identify optimal methods for its long-term management that are safe and cost-effective, along with developing preventive strategies that can be implemented in the community, leading to improved health.

Director's Report



The key achievements of 2008 have centered on the studies of diabetes, weight loss and the Lap-Band and we can see this trend continuing in our studies and being a focus for 2009. The Diabetes randomised controlled trial, report in JAMA in February, achieved outstanding prominence and has been a major stimulus in the debate on the role of surgical treatment of diabetes. This has now been followed up with two key studies of the relevant health economics which have just been published by Diabetes Care and promise to add importantly to the debate between payors and providers on which pathway makes the best economic sense. We have also now generated several protocols for further studies that will add to our knowledge base.

The diabetes RCT was timed very well to catch the rising interest of surgical options for control of type 2 diabetes. The treatment of diabetes surgically is an idea whose time has come. We have long recognized the effectiveness of gastric bypass. The band can now be seen to be effective also. We should accept that its effect is slower to achieve but is probably equal in effectiveness especially by two or more years. Several somewhat bizarre options are also now being promoted, debated and even performed, which focus on a “metabolic” effect rather than a weight loss effect. Metabolic is the new buzz word in bariatric surgery. CORE is an active participant in this game with our proposed study of the metabolic syndrome. However, for the moment, we are content to link the effectiveness of the Lap-Band primarily to its effect on weight loss.

The studies of the metabolic syndrome are one of three groups of studies which will dominate the research activity of CORE during 2009. In the metabolic syndrome studies, we plan to characterize in detail the time, sequence and epiphenomena of the resolution of the metabolic syndrome with weight loss. We have already established that the Lap-Band cures the metabolic syndrome. In two RCTs – the BMI 30-35 study and the Diabetes study - we showed a major and highly significant reduction of the metabolic syndrome with weight loss. We now want to understand more about the sequence and timeline. Which parameters change, in what order? What are the important interrelationships? We will be closely tracking 200 patients with the metabolic syndrome for 2 years after Lap-Band. It will enable us to better define the role of weight loss in reducing the risk factors for cardiovascular disease and diabetes. It may allow us to redefine the metabolic syndrome, which, at the moment, is something of a pageboy to diabetes, the king. But, as the metabolic syndrome affects more than a quarter of the adult population and represents a major risk factor for cardiovascular diseases, it deserves to be taken seriously itself.

We are also looking to explore the range of the LAGB in treating diabetes. The RCT showed a powerful effect in an ideal patient group. We are now going beyond that group to test the band in the Indigenous population and in people with diabetes who are just overweight (BMI 25-30). The Indigenous population has a high prevalence of diabetes and seem to develop the complications of the disease readily. We are measuring the acceptability of the band and their compliance with the follow up needs. They represent a considerable challenge, not dissimilar to the adolescents, and if we can show the benefit which we expect, all who fall between our idealized population in the RCT and this group will be seen as also deriving benefit. We are hoping to treat 30 people from a very supportive Indigenous community in central Victoria as an observational study. The study is being funded by a project grant from NHMRC for three years from 2009.

The second study - the BMI 25-30 study - will be a RCT testing the band as a “metabolic” treatment. These people are not obese but will almost certainly benefit from weight loss. This should prove to be far more acceptable to the diabetes community and their physicians than current proposed surgical alternatives of various forms of gut bypass or diversion. We have been setting up the protocols for these studies during 2008. We are now completing ethics approvals and expect to start each of these studies in the first quarter of 2009.

The other major study areas in 2008 were the adolescent RCT and continuing studies of the physiology and pathophysiology of the distal esophagus and upper stomach with the Lap-Band in place. These latter studies are being performed by Paul Burton, a young surgeon and PhD student in our group. He is adding essential knowledge which will facilitate optimal management of the band in the normal LAGB patient and help us understand much better the diagnosis and care of the abnormal.

The adolescent study in the final stages of writing up and should be submitted to one of the major journals early in 2009. In this study, we randomised 50 severely obese adolescents to best non-surgical care or the LAGB procedure. The surgical group have had a very impressive weight loss, along with remission of the metabolic syndrome and reduced insulin resistance. We have a very strong portfolio of additional research studies underway and these are summarized in the report.

The output of CORE has been strong. We have had 13 publications in refereed journals during the year and another 8 are in press. We have made numerous presentations at scientific meetings and courses. Wendy Brown conducted a large post graduate course in London in April. I contributed to the post graduate course at the American Society for Bariatric and Metabolic Surgery in Washington DC in June and we have conducted training courses for surgeons from Australia and the Asia-Pacific region in Melbourne and in the Yarra Valley.

We are anticipating an important transition during the first half of 2009 as I step back from the day-to-day running of CORE and hand over to Wendy Brown. I will keep active on all the studies in which I am involved and keep treating the patients at the Centre for Bariatric Surgery but would hope to hand over the responsibility of keeping CORE as the top research group for the area of weight loss and its effects to Wendy Brown who is far more talented and energetic. However, for better or worse, I will hover in the wings and make sure all continues just as it should.

We have a new young aspiring surgeon join our group as a PhD student. Lisa Doyle will work with Wendy and Julie Playfair on the metabolic syndrome study. This is a three year commitment from Lisa and we, in turn, are committed to helping her turn into a very competent clinical researcher, as well as encouraging her continuing surgical training. She has an excellent academic and clinical background and will add significantly to the aspirations of CORE through this study.

CORE has continued through this year to achieve its mission and I thank all the staff and supporters of CORE for their contributions to another successful year.

Paul O'Brien

Director - Centre for Obesity Research and Education

Our Purpose

The Disease

Obesity is a disease in which fat has accumulated to the point where health is impaired. By common practice, this is equivalent in the Western world to a Body Mass Index (BMI) of 30 kg/m².

Access Economics estimated in its August 2008 report that 3.71 million Australians (17.5% of the population) were obese. This figure is 14.5% higher than in its 2005 report, using similar measures, a frightening progression of disease.

Obesity is the primary cause, or a major contributor to, a myriad of chronic conditions and diseases including:

diabetes, high blood pressure, cardiovascular disease, stroke, cancer: especially of the colon, pancreas, stomach, breast and endometrium, insulin resistance and the Metabolic Syndrome, polycystic ovarian syndrome, musculoskeletal problems such as osteoarthritis of the hips, knees and feet and low back pain, stress incontinence and depression.

According to the Australian Institute of Health and Welfare, the fraction of diabetes which is directly attributable to obesity is 24%. As there are approximately 1 million people with diabetes in Australia, obesity is the driving factor for more than 242,000. According to the AusDiab report in 2008, 275 new cases of type 2 diabetes occur each day. Similarly the Attributable Fraction (AF) for cardiovascular disease is 21%, osteoarthritis - 25% and cancers 21%.

Access Economics (August, 2008) estimates the direct costs of obesity to the health care system, productivity costs and carer costs to be \$7.5 billion with further indirect costs due to lost wellbeing of \$49.9 billion.



Our mission and strategy

The Centre for Obesity Research and Education (CORE) was established by Monash University in November 2003 to better understand the disease of obesity, obesity-related diseases and psychosocial conditions, and to identify optimal methods for the safe, cost-effective, long-term management of obesity, coupled with preventive strategies that can be implemented in the community leading to improved health.

CORE is unique in applying a multidisciplinary approach to the study of obesity which integrates a major clinical obesity management program with strengths in clinical research, clinical epidemiology, public health, basic sciences and professional and community education. Through this integration, CORE is able to measure the health consequences of obesity, along with the unique capacity to evaluate the health benefits of weight loss.

Operational Overview for 2008

CORE continues to operate within Monash University's Faculty of Medicine, Nursing and Health Sciences. During 2008 the Centre moved to be within the new School of Public Health and Preventive Medicine (SPHPM) under the leadership of Prof John McNeil. The centre is geographically based at the Monash Medical School at The Alfred Hospital, Melbourne.

The Scientific Advisory Board

The centre is supported by a Scientific Advisory Board which was restructured as a part of the change of School. It is chaired by the Head of the new School, and its membership is formed by outstanding Health Professionals with expertise in the area of obesity and by the Executive of CORE.

The board members for 2008 were as follows:

[Professor John McNeil](#) (Chairperson): Head of the School of Public Health and Preventive Medicine at Monash University

[Professor Joseph Proietto](#) (member): Professor of Medicine at the University of Melbourne

[Associate Professor Melissa Wake](#) (member): Director of Research and Public Health at the Centre for Community Child Health

[Professor Brian Oldfield](#) (member): Professor of Physiology at Monash University

The Executive Team

The centre is lead by an Executive Team that integrates the essential scientific disciplines necessary for obesity research and education. The Executive Team is made up of the Director (Professor Paul O'Brien) and a number of staff from within the CORE group.



Professor Paul O'Brien is Director of the Centre for Obesity Research and Education. His areas of expertise include: The morbidity of obesity and the health benefits of weight loss; laparoscopic adjustable gastric banding procedures; treatments for obesity and their relative effectiveness; effects of obesity and weight loss on survival.



Associate Professor Wendy Brown is the Deputy Director of the Centre for Obesity Research and Education. Her areas of expertise are laparoscopic adjustable gastric banding procedures, the effects of weight loss on health and upper gastro intestinal surgery with a primary focus on oesophagogastric junction and obesity.



Dr Anna Peeters is a VicHealth Research Fellow in the Department of Epidemiology and Preventive Medicine at Monash University. Her areas of expertise are chronic disease, aging and medical demography, with particular focus on the population implications of overweight and cardiovascular disease.



Dr Melissa Hayden is a Research Fellow at the Centre for Obesity Research and Education. Her areas of expertise are the psychological effects of obesity with a particular focus on depression and mood disorders, discrimination and stigmatisation as a result of being overweight.



Ms. Cheryl Laurie is a senior research nurse in the Centre for Obesity Research and Education. She has had many years of experience in co-ordination and administration of clinical trials mostly associated with treatment of obesity both medically and surgically.

CORE Staff

The centre is further supported by a dedicated team of research and administrative staff.

Director

- Paul O'Brien

Deputy Director

- Wendy Brown

Office Manager

- Jo-Ann Giovannoni

Administrative Assistant/Secretary

- Tania Richter

Senior Researchers

- Melissa Hayden - Research Fellow
- Catherine Keating - Health Economics

Research Assistants

- Cheryl Laurie
- Julie Playfair
- Chris Halket
- Kristine Egberts

Data Manager

- Margaret Anderson

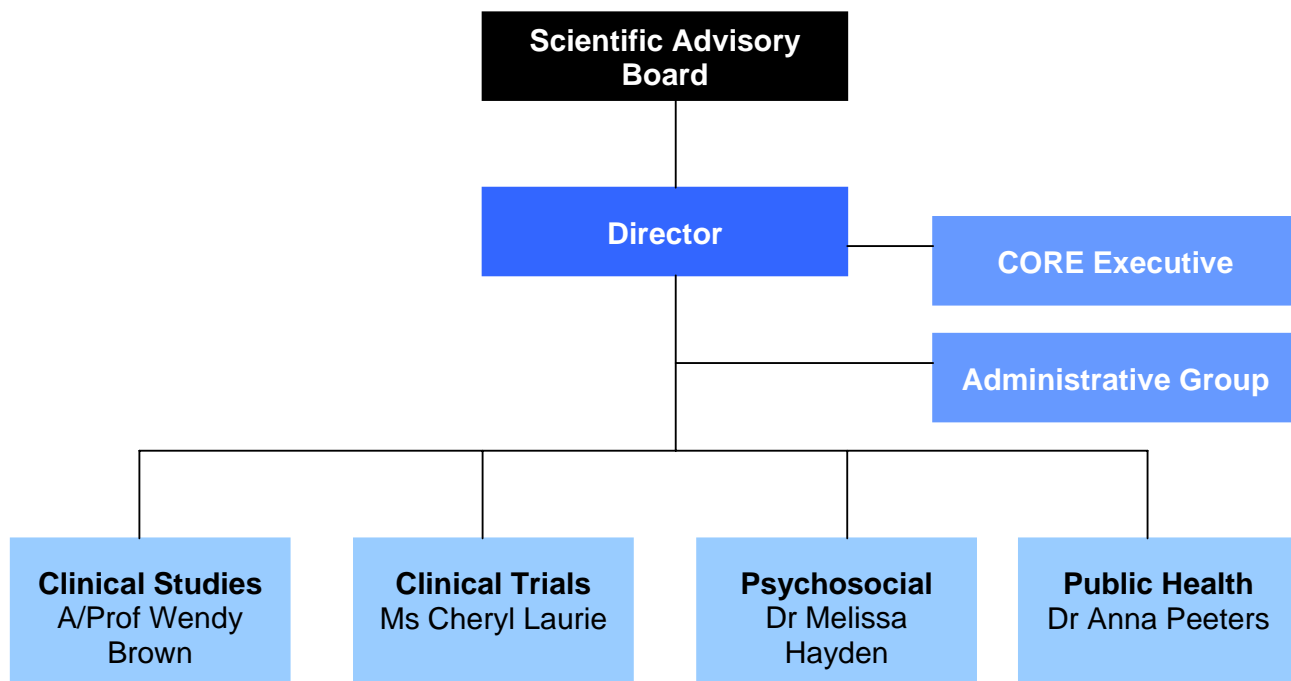
PhD Students

- Paul Burton
- Kristine Egberts
- Lisa Doyle

BMed Sci Student

- Rebecca Haward

CORE Organisational Chart



Staff Matters

There have been some major shifts in staff in 2008. John Dixon has moved on from the CORE. He has been a highly productive member of CORE since it was formed in 2003. He came to us from a primary care background and was a PhD student from 1999, completing his studies in 2001. He has contributed greatly to the growth of activity in CORE in both its research and educational roles. He moved to a period of sabbatical leave in the Monash University Department of Primary Care and has since decided to remain there. John will officially take up a position within the School of Primary Health Care in January 2009. Maureen Dixon spent most of 2008 working at the School of Primary Health Care and will also take up a position there in 2009.

Dr Wendy Brown was promoted to rank of Associate Professor of Monash in late 2008 and is now the Deputy Director of CORE.

Freya Troedel who was due to return from secondment towards the end of 2008 officially resigned in October to take up another position at the University's Central Administration Offices. We wish Freya all the best for her valued contribution to this department.

During the first half of 2008 the CORE administration office was managed by our Office Manager, Kathryn Jones, who was ably assisted by temporary secretarial staff Kelly Scoble and later Nicole Lee.



At the end of April, Kathryn left to work on a yacht in France and we welcomed Jo-Ann Giovannoni from the Department of Surgery at the Alfred to the role of Office Manager. Jo-Ann commenced on a part-time basis with CORE while finalising work for the Department of Surgery and the Alfred Hospital, and officially joined CORE on 2nd June 2008. Jo-Ann has a Bachelor of Business degree at RMIT and will focus on the HR, Finance, Teaching and Training and Commercialisation areas of CORE.



We also welcomed our latest recruit Tania Richter to the team in late September as the CORE Administration Assistant and Secretary to Wendy Brown. Tania has a Bachelor of Arts degree from Monash and is a great asset to the team.

CORE has been fortunate in having attracted a number of overseas visitors to our Centre. In 2008 we have had two overseas visitors, Assistant Professor Ayman Hassanen, Visiting Research Fellow from Egypt, who spent 6 months doing research working with Paul Burton and myself and Visiting Research Student Annelot Ochtman from Holland who spent 3 months at CORE working with Melissa Hayden.

We are looking forward to expanding our group in 2009 with two new additions to the team:



Rebecca Haward (B Med Sci student)



Dr Lisa Doyle (PhD candidate)

Partnerships

A feature of CORE is its extensive collaborative links to experts in several relevant clinical, public health and basic medical science areas across Monash University, across Melbourne and around Australia and overseas. These ensure the optimal quality for our research studies. Establishing and nurturing these partnerships continues to remain a high priority and focus for the centre.

CORE has established formal collaborations with several groups which is most evident with our NHMRC project grants

Collaborative working relationships

Monash University Associates

- Michael Bailey – Statistician – Department of Epidemiology and Preventive Medicine (DEPM)
- Eldho Paul – Statistician – Department of Epidemiology and Preventive Medicine (DEPM)
- Andrew Forbes – Statistician – Department of Epidemiology and Preventive Medicine (DEPM)
- Anne Corbould – Endocrinologist – Prince Henry's Institute of Medical Research
- Maximilian De Courten – Clinical Epidemiologist – DEPM
- Andrew Forbes – Statistician – DEPM
- Jayashri Kulkarni – Director: Alfred Psychiatry Research Centre
- Gavin Lambert – Satiety / Brain Imaging – Baker Heart Research Institute
- Sharon Marks – Nutrition – (Consultant Physician) Monash Medical Centre
- John McNeil – Clinical Epidemiologist – DEPM
- Matthew Naughton – Respiratory Physician – Department of Medicine
- Jeffrey Richardson – Health Economics – Monash University
- Boyd Strauss – Nutrition / Body Composition – Monash Medical Centre
- Helena Teede – Endocrinologist – Department of Medicine - Monash Medical Centre
- Ranjana Warrier – Cardiac Studies – Monash University
- Gisela Wilcox – Nutrition / Metabolism – Monash Medical Centre
- Brian Oldfield – Physiologist – Monash University

External Associates

- Prithi Bhathal – Liver Pathology – University of Melbourne
- David Cameron-Smith – Skeletal muscle / Diabetes studies – Deakin University
- Robert Carter – Health Economics – Deakin University
- Marj Moody – Health Economics, Deakin University
- Leon Chapman – Diabetes – International Diabetes Institute
- Peter Angus – Liver studies – University of Melbourne – Austin Hospital
- Peter Clifton – Diet and Nutrition – CSIRO
- Derek Denton – Satiety / Brain Imaging – Howard Florey Institute
- Dawn DeWitt – School of Rural Health – University of Melbourne
- Jacqui Dobson – Liver studies – University of Melbourne – Austin Hospital
- Gary Egan – Satiety / Brain Imaging – Howard Florey Institute
- Michael Farrell – Satiety / Brain Imaging – Howard Florey Institute
- Geoff Hebbard – Reflux studies – Royal Melbourne Hospital
- Rachael Knight – Polycystic ovary syndrome – Obstetrics – Royal Women's Hospital
- Gab Kovacs – Polycystic ovary syndrome – Obstetrics – Box Hill Hospital
- Carel Le Roux – Endocrinologist – Imperial College, London.
- Andrew McAinch – Skeletal muscle / Diabetes studies – Adelaide University
- Paul Marks – Radiological Imaging – Mayne Health Diagnostic Imaging
- Rajesh Nair – Cardiac studies - Baker Heart Research Institute
- Kerin O'Dea – Endocrinologist and Indigenous Studies – Baker IDI
- Elizabeth Powell – Liver studies – University of Queensland – PA Hospital
- Joe Proietto – Diabetes – University of Melbourne

- Jaithri Rajakulendran – Health Economics – Deakin University
- Susan Sawyer – Adolescent Health – Royal Children’s Hospital
- Kate Stern – Polycystic ovary syndrome – Obstetrics – Royal Women’s Hospital
- John Tiller – Psychiatry, The Albert Road Clinic, University of Melbourne
- John Wentworth – Endocrinologist - Adipocyte Studies - Walter and Eliza Hall Institute
- Chiew Wong – Cardiac Studies - Baker Heart Research Institute
- Jonathon Shaw – Endocrinologist, Baker – IDI Research Institute
- Petah Atkinson – Director, Rumbalara Health Service, Shepparton
- Michelle Butler – Cardiology Registrar – Alfred Heart Centre
- Andrew Taylor – Cardiologist – Alfred Heart Centre

Centre for Bariatric Surgery

Bariatric Surgeons

- Paul O'Brien
- Stewart Skinner
- Stephen Blamey
- Gary Crosthwaite
- Andrew Smith
- Paul Burton
- Wendy Brown

Specialist Physicians

- Linda Schachter – Respiratory
- Vikas Wadha – Respiratory
- Tim Monroe – Respiratory
- John Wentworth – Endocrinology
- Stuart Moir – Cardiology
- Peter Baquie – Sports Medicine
- Friederike Veit – Adolescent

General Physicians

- Anna Korin
- Audrey Kotzander
- Kathryn De Garis
- Paul McCartney
- Caroline Lloyd
- Karina Stolyarsky

Clinical Psychologist

- Samantha Tweedale

Anaesthetists

- Tony Burn
- Jenny Garden

Dieticians/Exercise Consultants

- Marie MGrane
- Melanie McGrice
- Meagan Walker
- Helen Bauzon



The Laparoscopic Adjustable Gastric Band - The Core of CORE

CORE has something rather unique, something that is not readily available to most other research groups studying obesity. It has ready access to a very large group of people who have the problem of obesity and who will predictably lose a substantial amount of weight. One of our key strengths has been studying the effects of obesity on these people and monitoring the benefits that occur with weight loss.



The LAP-BAND[®], made by Allergan, our principal sponsor, is the first and most extensively studied of the laparoscopic adjustable gastric band (LAGB). It is illustrated in the figures on this page. It consists of a ring of silicone with an inner balloon. It is placed at the very top of the stomach, just below the junction with the oesophagus. By sitting there it creates a sense of satiety, of not being hungry, of not being interested in food or eating. This is the primary effect of the band. Importantly, we can adjust how much effect it has on satiety by adding or removing fluid from the balloon. The balloon is connected to an access port which lies on the muscle layer of the abdominal wall. If we add saline to this port, the band tightens on the stomach and the person feels less interested in food. If we remove fluid, the opposite effect occurs.

The LAP-BAND[®] is placed laparoscopically – key-hole surgery. It can be done as a day procedure but an overnight stay is more common. For the adjustments, we pass a needle through the skin into the access port. The adjustments are a part of a clinical consultation and take just a few minutes to do. With a LAP-BAND[®] in place, we are able to exercise control over appetite with such an easy process. That is also unique.

We study the LAGB, for example how it works and its complications. Furthermore, the sustained weight loss, which is produced by placement of LAGB, enables us to study the effects of this weight loss on the comorbidities of obesity. Not only direct comorbidities, i.e. diabetes and hypertension, but psychological aspects of sustained weight loss, quality of life, the cost-effectiveness of weight loss and most importantly the effect on mortality.

CORE has a close working relationship with the Centre for Bariatric Surgery (CBS). The surgeons at CBS, with the support of a team of health professionals, have now treated over 5,000 patients over the past 14 years. Most of these patients have been followed up diligently, their health and quality of life have been monitored and their outcomes stored in an electronic database. The plentiful supply of patients and the availability of a detailed database on individual and group outcomes have enabled the development and completion of numerous studies that would not have been possible in a different setting.

The LAGB has been the facilitator of the research at CORE. It is the principal method we use for achieving weight loss. There are many ways of achieving some weight loss. All of us can lose some weight; some of us can lose a great deal of weight but almost none of us can lose a great deal of weight and keep that weight off for years without a surgical procedure. The LAGB is a safe and effective surgical weight loss procedure. But it is simply the tool for most of our research studies. It is the means to the end, not an end in itself. The most important of our studies focus on the effects that weight loss achieves on the comorbidities of obesity, on the quality of life and on length of life. For these studies, we would be happy to use an safe and effective treatment. Sadly, there are none currently available that are not surgical. We also do studies specifically directed to aspects of the LAGB and its effects. We examine how it achieves satiety and what effects it creates in the region of the upper stomach and the distal oesophagus. These studies will give important insights into this method of treatment but also open potentially new pathways for achieving weight. We study how to optimise the effectiveness of the LAGB. It is already the most used method in the world for achieving substantial weight loss. We seek ways of doing better. We measure the costs of what we are doing and try to ensure that the cost benefit ratios remain favourable.

Research

CORE is, first and foremost, a research centre. Research is central to its mission and the clinical research capability of CORE sets us apart from most other research groups.

The following are summaries of some of the research studies within CORE which are being planned, currently being conducted or have just been completed and are being published

Randomised Controlled Trials (RCT's)

RCTs are the coin of the realm. They are the most important methods for clinical research to uncover new information in a scientific robust manner. The Australian healthcare system provides an environment that is conducive to running clinical trials with a high quality medical system, good training in scientific method, a vigorous but supportive human ethics approval process and a population who are generally pleased to act as participants. Through CORE we have conducted several RCTs to date. Two of these have become landmark studies in the medical literature – The BMI 30-35 trial, the first to compare medical and surgical treatment for obesity, and the Diabetes trial, another comparison of the best medical and surgical treatments for this particular group. We have a number of RCTs ongoing or about to begin.

The Adolescent RCT

We admitted 50 severely obese adolescents, randomised them to best non-surgical care of their obesity or LAGB placement. The 2 year follow up is complete and the primary report of the study is about to be submitted. Adolescent obesity is now seen as a major health problem across the world and this study should attract considerable attention.

The Obstructive Sleep Apnoea RCT

A randomised controlled trial of the effect of substantial weight loss on obstructive sleep apnoea. This study has been enrolling patients for 2 years and we have almost finished recruiting the 60 participants needed for the study. We will then have a two year period to complete follow up. Although it remains a CORE study, the general conduct of this study has moved, along with John Dixon, to the School of Primary Health Care.

The Diabetes BMI 25-30 RCT.

We await a final ethics committee approval before beginning recruitment of 50 participants into this study. All participants have an optimal program of diabetes care and half will be randomised to substantial weight loss using the LAGB procedure. Comparison of outcomes will be made at 12 months after randomisation to compare remission rates and at 5 years to compare durability of effect.



The “Lifestyle” Series of RCTs.

Optimization of the outcomes after LAGB is dependent not only on safe and correct surgical placement but also requires leading the patient through a permanent lifestyle change characterized by optimal eating, maximal acceptable exercise and activity and an appropriate pattern of clinic visits and adjustments. We need to determine exactly what is optimal and to do that we have constructed a series of RCTs which will guide us. The first of these, testing an intensive exercise and daily activity program against the routine advice and support which we have traditionally provided has commenced. The second will look at three different approaches to eating after the LAGB. The third will compare the relative effectiveness of liquid versus solid food diet. The final study will measure the relationship between clinic visits and adjustments and outcomes. All of these studies are part of the PhD studies of Kristine Egberts.

[Other Clinical Studies](#)

Not all questions can or need be answered by RCTs. With a large and well managed database containing many thousands of people with obesity who are losing or have lost weight. For various significant questions we draw on observational studies. The most significant of these is the prospective study of the metabolic syndrome and the study of the LAGB in the Indigenous people with diabetes.



Research Assistant
Julie Playfair

[Metabolic Syndrome](#)

The metabolic syndrome is a collection of features each of which is an important risk factor for cardiovascular disease. This research project addresses the challenge of obesity control and its relationship to changes in the metabolic syndrome. This study is just commencing and in it we seek to improve our understanding of how much weight loss is required to achieve a significant improvement in the features of metabolic syndrome, and in which order these features resolve. We also seek to better define the changes in gut hormones and adipokines that may underpin the improvement in the metabolic syndrome. With this knowledge, optimal treatments for metabolic syndrome, and realistic weight goals for our patients, may be defined. We will perform a linear prospective observational study of 200 obese people with the metabolic syndrome who have weight loss after LAGB.

[Indigenous Diabetes study](#)

We have shown clearly that weight loss will lead to a high rate of resolution of type 2 diabetes in an ideal Caucasian population. However diabetes is a common and severe disease for the Indigenous people. In this study we will test if the LAGB approach to treating this problem is an acceptable option for the Indigenous people and if they will be able to follow the compliance needs to achieve a good result. We plan to seek a total of 30 people living in the region of Shepparton and attending the Rumbalara Health Service. We need to understand of the important cultural differences which exist with sensitivity to the socio-cultural profile which emphasizes the links between the person, the family and the community and establishes close collaboration with the communities, sharing ownership and decision making. The approach to illness and treatments is modified by these cultural differences with issues of communication, understanding and trust influencing behaviour. Furthermore, the extremely disadvantaged state of many of the Indigenous community with regard to health, education, social and economic measures is relevant. There is lower income, less education, increased unemployment, and greater levels of violence and self-harm. This study will commence as soon as ethics approvals are complete. It is supported by a project grant from NHMRC.

[The Survival study](#)

We have compared the survival of our patients with a group of similar obese people in Melbourne who have not lost weight and have shown a very important survival advantage to those in the weight loss group. We are now working with international groups who have conducted similar studies with the plan of pooling our data and thereby achieving enough numbers to ask more detailed questions about which patients in particular are more likely to benefit.

[Intensive Care study](#)

This is a study of failure. No treatment is always successful, no less the LAGB procedure. We have identified those who have failed to lose enough weight (less than 25% of their excess weight at 2 years) and we are establishing the optimal approach to understanding why they have failed and measuring the effectiveness of more active attempts to improve their outcomes. How many can we salvage? What criteria predict a worthwhile outcome? Who will continue to fail? The study involves an intensive analysis of why failure occurred and an intensive attempt to correct the problems.

[Knee Pain Study](#)

The weight bearing joints carry an added load in the severely obese and degenerative disease is common. This study involves a clinical and radiological evaluation of the knees of symptomatic patients before, and two years after LAP-BAND® placement. Approximately 60 subjects have been followed. The X-rays of the knees are now being evaluated blindly and a report of this study should be available during 2008.

[Psychological Assessment Study](#)

Is psychological assessment prior to weight loss surgery a worthwhile process? We are performing a detailed and comprehensive psychological assessment on 200 patients using a semi-structured psychological interview known as the SCID (Structured Clinical Interview for DSM-IV Disorders) and a series of questionnaires. From these we hope to determine the prevalence, nature and severity of clinical psychological disorders and personality disorders. We also plan to investigate the validity and reliability of the Beck Depression Inventory (BDI) in obese individuals by concurrently administering the BDI and the SCID. We hope to find possible predictors of good and poor weight loss outcomes and compliance at after surgery and to observe the effect of weight loss on DSM-IV diagnosis, mood, eating behaviours and cognitive style.

[Technical Studies of the Lap-Band® Procedure](#)

[Measuring the physiology and pathophysiology of the upper stomach and distal oesophagus.](#)

We are defining the physiology critical to success with the LAGB in terms of esophageal motility and pressure topography, oesophageal and gastric compliance, bolus transit and the mode and threshold for the generation of peripheral gastric mediated satiation. We wish to determine the physiological effects on the above parameters of adjusting the volume within the LAGB and correlate these with sensations of satiety. We also hope to identify the pathophysiological features associated with inadequate weight loss, adverse symptoms and proximal gastric enlargement following LAGB and evaluate these pathophysiological features as predictors of outcome with primary and revisional surgery. At the same time we are developing and validating a technique of high resolution video manometry as a diagnostic test for LAGB patients and establishing the relationship of gastric emptying above and below the LAGB to satiation, symptoms and weight loss

[Satiety - Brain Imaging II Study](#)

Satiety is the key to effectiveness after LAGB placement. The better we understand the mechanisms and pathways for satiety, the better we can optimize the patient care process. In association with collaborators at the Florey Institute we are using functional magnetic resonance imaging (fMRI) of the brain in successful band patients before and after meals to identify the centres at the brain stem and hypothalamus activated by this stimulus.

[Systematic Reviews of the literature](#)

There is a wealth of information hidden within the mountains of published but unsorted data. Systematic review seeks to find the nuggets of gold within the mountain. The following systematic reviews are in preparation:

[Anaesthesia and the Lap-Band – A Systematic Review](#)

We are trying to define from the medical literature the steps that should be taken prior to anaesthesia to minimize problems with aspiration.

[Exercise and activity after LAGB – A Systematic Review](#)

In support of the RCT described above, we will review the existing literature to identify the existing findings.

[Eating patterns and content after LAGB – A Systematic Review.](#)

What do we already know? We plan to review this and bring the key Findings together before embarking on the RCT

[Erosions after Lap-Band Surgery - A Systematic Review](#)

Erosions are an uncommon but concerning complication of LAGB placement. As a support for the study of erosions which have been managed by the surgeons associated with CORE, we are examining the literature.



PhD Candidate
Kristine Egberts

Technical studies of the co-morbidities of obesity

Cardiac Study

Numerous unfavourable changes occur to the heart in obesity. We have been evaluating cardiac structure and function in the morbidly obese using MRI and Echocardiography. We have now measured the change in cardiac structure and function in association with substantial weight loss. We hypothesize that, in obese patients, significant weight loss will improve accepted parameters of cardiac function and cardio-vascular risk profile.

Cardiac Liver Study

Non-alcoholic steatohepatitis (NASH) is a common and potentially dangerous condition in the severely obese. Its diagnosis rests on accurate measure of liver fibrosis. There is a strong need for an accurate method of measuring liver fibrosis without resorting to liver biopsy. Techniques of measuring cardiac fibrosis using MRI have been developed. We are testing if these methods can be validated for liver fibrosis.

Adipose Tissue Study

Animal studies suggest that adipose inflammation centred on macrophages is a link between obesity and metabolic syndrome. Two macrophage populations appear to exist. In the lean, solitary 'resident' macrophages predominate. Obesity, on the other hand, is associated with 'crown' macrophages that surround necrotic adipocytes. We are seeking an understanding of how these contribute to the inflammation of obesity and to insulin resistance.



Data Manager
Margaret Anderson

Cost-effectiveness evaluations

The identification and characterization of safe and effective treatments are no longer sufficient. We must also evaluate the cost of the different options. The randomised controlled trials each have involved the collection of cost data and a comparison of the cost-effectiveness of the two arms of each study can be performed. We have just completed and published the measurements of cost-efficacy and cost-effectiveness for the Diabetes RCT. Data from the adolescent RCT is available for analysis and data for the obstructive sleep apnoea is being collected.



Teaching and Training

Education is the second major role for CORE. We have specific areas of knowledge and skills. We have a role and a duty in sharing those with the health professional community, with the public and the media. In doing so we should seek to add value in the areas we are best at, the areas where we can offer a unique depth of understanding.

The staff of CORE has particular strength in the area of weight loss surgery, its techniques and health benefits. In particular, we have more experience and research background on studies of the Lap-Band procedure than any other group in the world and this has been the dominant area of our teaching and training. We have conducted more basic and advanced Lap-Band training courses for surgeons and their associated health staff over the last 12 years than any other group and this pattern has continued in 2008.

The list below provides a summary of the courses provided, the lectures given and the additional educational activities for 2008.

National and International Training Courses

The courses

Training of health and medical professionals at both national and international levels continues to be high priority and responsibility for CORE. Professor Paul O'Brien and Associate Professor Wendy Brown represent CORE in running training programs that broaden the professional community's knowledge base regarding best care and treatment of the bariatric patient.

CORE runs two types of training courses:

1. Basic Course in Laparoscopic Adjustable Gastric Banding (2 Days)

Aim: To provide the laparoscopically skilled surgeon with the knowledge and resources needed to establish a safe and effective bariatric practice utilizing the Lap-Band® procedure as the primary approach.

Target: Surgeons – general, or with a special interest in upper gastrointestinal or endocrine surgery.

2. Advanced Course in Laparoscopic Adjustable Gastric Banding (2 Days)

Aim: To provide the surgeon who has preliminary experience with Lap-Band® placement and care of the Lap-Band® patient with new information on techniques, prevention and treatment of complications, recent published outcome data and detail on management of the challenges presented by these patients.

Target: Surgeons in bariatric surgical practice utilising the Lap-Band® procedure.



2008 Activities

Over 2008, CORE conducted the following training programs:

May 30th – 31st 2008: LAP-BAND®: Basic Course in Laparoscopic Adjustable Gastric Banding Training Workshop. Melbourne, Australia

Course Director – Paul O'Brien

Faculty – Wendy Brown, Paul Burton, Stewart Skinner, Michael Barrowcliff

September 11th – 12th 2008: LAP-BAND®: London Course in Laparoscopic Adjustable Gastric Banding, Training Workshop. Imperial College, London, UK

Course Director – Wendy Brown

Faculty – Ahmed Ahmed, Carel LeRoux, Bronwyn Webster

October 17th - 19th 2008: LAP-BAND®: Advanced Course/ Allergan Australian Advanced Obesity Management Symposium. Yarra Valley, Victoria, Australia

Course Directors – Paul O'Brien and Wendy Brown

Talks at the Table

In 2008 CORE once again hosted a "Talks at the Table" session. "Talks at the Table" invites collaborative partners to join fellow researchers for an evening of short presentations, given by 3 guest speakers. The evening is held at a local restaurant and sponsored to include an evening meal and beverages and provides the opportunity to develop greater working relationships and research opportunities.

18 March 2008:

Ms Catherine Keating MPH

Research Fellow, Health Economics Unit, Deakin University

"Cost effectiveness of surgically induced weight loss for the management of Type 2 Diabetes"

Michael Mathai PhD

Howard Florey Institute and Centre for Neuroscience, University of Melbourne

"Application of angiotensin antagonist drugs to obesity and metabolic syndrome: insights from animal experiments and human trials"

Mr Paul Burton MBBS (hons) FRACS

PhD student, Centre for Obesity Research and Education (CORE), Monash University

"Video manometry and Lap-Band patients"

Research Publications

Published:

Dixon JB, O'Brien PE, Playfair J, Chapman L, Schachter LM, Skinner S, Proietto J, Bailey M, Anderson M.

Adjustable gastric banding and conventional therapy for type 2 diabetes: a randomized controlled trial
JAMA. 2008 Jan 23;299(3):316-23

Kampe J, Brown WA, Stefanidis A, Dixon JB, Oldfield BJ.

A Rodent Model of Adjustable Gastric Band Surgery-Implications for the Understanding of Underlying Mechanisms.

Obes Surg. 2008.

Campbell N, Brown WA, Smith A, Skinner S, Nottle P.

Small Bowel Obstruction creates a Closed Loop in patients with a Laparoscopic Adjustable Gastric Band
Obesity Surgery. 2008 Oct;18(10):1346-9.

Hayden, M.J., Dixon, J.B., Piterman, L. & O'Brien, P.E.

Physician attitudes, beliefs and barriers towards the management and treatment of obesity.

Australian Journal Primary Health, 2008; 14(3), 9-18.

Burton PR, Brown WA , Laurie C, Richards M, Afkari S, Korin A, Hebbard G, O'Brien PE

Technique of high resolution video manometry and findings in successful LAP-BAND patients

Obesity Surg. 2008

Dixon JB, Hayden MJ, Lambert GW, Dawood T, Anderson ML, Dixon ME, O'Brien PE.

Raised CRP Levels in Obese Patients: Symptoms of Depression Have an Independent Positive Association.

Obesity (Silver Spring). 2008 Sep;16(9):2010-5.

Brown WA, Burton PR, Anderson M, Korin A, Dixon JB, Hebbard G, O'Brien PE.

Symmetrical pouch dilatation after laparoscopic adjustable gastric banding: incidence and management.

Obes Surgery. 2008 Sep;18(9):1104-8..

O'Brien P, Brown W.

Assessing the Acute Abdomen in the Bariatric Patient: Need for Improvement.

Obesity Surgery 2008 Oct;18(10):1215-6.

O'Brien PE,

Laparoscopic Gastric Banding,

Cardiology In General Practice. 2008 4: 36-39

Chaston TB, Dixon JB.

Factors associated with percent change in visceral versus subcutaneous abdominal fat during weight loss: findings from a systematic review.

Int J Obes (Lond). 2008; 32(4):619-28

Colles SL, Dixon JB, O'Brien PE.

Hunger Control and Regular Physical Activity Facilitate Weight Loss After Laparoscopic Adjustable Gastric Banding

Obesity Surgery 2008 ; 18(7):833-40

Colles SL, Dixon JB, O'Brien PE.

Grazing and loss of control related to eating: two high-risk factors following bariatric surgery. Obesity (Silver Spring). 2008; 16(3):615-22

Colles SL, Dixon JB, O'Brien PE.

Loss of control is central to psychological disturbance associated with binge eating disorder. *Obesity (Silver Spring)*. 2008;16(3):608-14.

Chaston TB, Dixon JB.

Factors associated with percent change in visceral versus subcutaneous abdominal fat during weight loss: findings from a systematic review
Int J Obes (Lond). 2008;32(4):619-28.

Book Chapter:

O'Brien, P.E

Laparoscopic Adjustable Gastric Banding

In: *Handbook of Obesity: Clinical Applications*, 3rd Edition

Edited by George Bray and Claude Bouchard,

Informa Healthcare, 2008

Chapter 33, p517-535.

In Press:

O'Brien PE,

Comments On: Management of slipped adjustable gastric bands (editorial comment),
Surgery for Obesity and Related Diseases, 2008

Brown WA, O'Brien R, Goondewarden K, Anderson M, Burton PR, Skinner S, Smith AI, O'Brien PE

Laparoscopic Adjustable Gastric Banding is Safe and Effective in the Public Hospital Setting.

Annals of Surgery - resubmitted

John B Dixon, Cheryl Laurie, Margaret Anderson, and Paul E O'Brien

Motivation, readiness to change and weight loss following adjustable gastric band surgery

Obesity (Silver Spring), 2009

O'Brien P

Variations of weight loss after bariatric surgery: The importance of duration and follow up –
Commentary

Nature Clinical Practice: Gastroenterology and Hepatology, 2009

Catherine L. Keating, John B. Dixon, Marjory L. Moodie, Anna Peeters, Paul E. O'Brien

Cost-efficacy of surgically induced weight loss for the management of type 2 diabetes: randomised controlled trial.

Diabetes Care, 2009

Keating C, Dixon J, Peeters A, Moodie M, O'Brien, P.

Cost-effectiveness of surgically induced weight loss for the management of type 2 diabetes

Diabetes Care, 2009

Book Chapters In Press:

O'Brien, P.E

Role of Physical Activity In Surgical Weight Loss

Advances in Physical Activity and Surgery.

Edited by Claude Bouchard and Peter Katzmarzyk.

To be published by Human Kinetics, 2008

O'Brien PE, Dixon JB

The Management of Obesity: Surgery,

In: *Clinical Obesity*, 3rd Edition. 2008.

Editors: Peter Kopelman, Ian Caterson William Dietz.

Blackwell, 2009

National and International Presentations

Professor Paul O'Brien

8th Minimally Invasive Surgery Symposium
Steamboat Springs, Colorado
18th -23rd February, 2008

- "Weight Loss and Mortality: Can we save the Whale?"
- "Prolapse after prolapse: What next?"

Primary Care Practitioner Update Course – 27th February
Dallas, Texas

- "Weight loss and disease control"

Royal Australasian College of Surgeons Annual scientific Meeting
Hong Kong, 12th 16th May, 2008

1. Keynote Lecture:
"Lose Weight – Gain Health: The Evolution and Revolution of Bariatric Surgery"
2. Symposium on Bariatric Surgery: The Expert View – How, why and when do I do it.
"Laparoscopic Adjustable Gastric Banding"
3. Symposium: Defining Clinical Competence
"Introducing a New Technology – Lessons from Bariatric Surgery"
4. Symposium: New Frontiers in Bariatric Surgery
"The LAP-BAND™ AP System"
5. Symposium: A Better Way of Doing It"
"The NERD Technique for LAGB Replacement after Prolapse"

Allergan - Surgeon Training Mega-Workshop and Refresher
LAP-BAND® Adjustable Gastric Banding System
Washington DC, June 13th – 15th, 2008

1. "Weight Loss using the LAP-BAND® - Benefits to Health, Quality of Life and Survival"
2. "The LAP-BAND® AP – Australian Data"

Endocrine Society of Australia
Symposium on Obesity,
Melbourne, 27th August, 2008

1. Obesity, Type 2 Diabetes and Weight Loss Surgery

International Federation for Surgery for Obesity
13th World Congress
Buenos Aires 24th – 27th September, 2008

ASMBS Metabolic Surgery Course
24th September, 2008

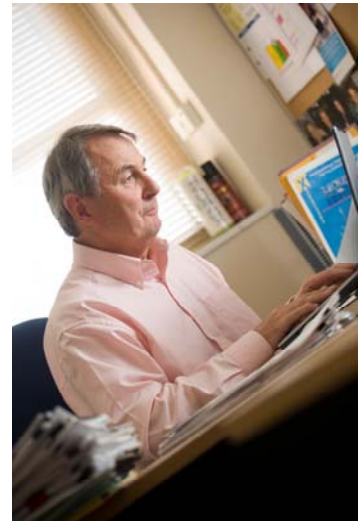
1. Symposium: Bariatric Surgery and Type 2 Diabetes
Laparoscopic Adjustable Gastric Banding
2. Weight Loss and Mortality: Population-based Studies

IFSO Symposia:

1. Lose Weight – Live Longer
2. Prolapse, Slippage and Symmetrical Enlargements: Prevention and Treatment
3. LAGB or Sleeve Gastrectomy: A Debate

Monash Initiative on Obesity – Launch
Melbourne, 1st October, 2008

1. Weight Loss – The Best Medicine



Advanced Course for Lap –Band Surgeons

Yarra Valley, Victoria

17th – 19th October, 2008

Course Co-Director

Presentations:

1. What's New! An Update on new information in Bariatrics and the LAP-BAND
2. Lap-Band Operative Technique
3. Slips et al: the spectrum of oesophageal and gastric enlargements above the band:
Treating the problem; Preventing the problem
4. Access port problems
5. Challenges in Practice management – Staffing, Scheduling and avoiding “no show”s. Tracking the patient, EMR, lab reports, reporting functions,

Primary Care Physicians Symposium

Dallas Texas

29th October, 2008

1. Outcomes after weight loss in the obese

Media:-

“60 Minutes” Diabetes, the Lap-Band and weight loss

“A Current Affair” – The Lap-Band, “The Lap-Band Solution” book and Obesity.

“Today Tonight” – Ekaterina’s story

[Associate Professor Wendy Brown](#)

8th Minimally Invasive Surgery Symposium, Steamboat Springs, Colorado

18th – 23rd February, 2008

1. Obesity and cancer
2. Oesophageal function following LAGB
3. Debate: sleeve gastrectomy is an acceptable bariatric procedure
→ negative.

Royal Australasian College of Surgeons Annual scientific Meeting Hong Kong,

12th - 16th May, 2008

1. Reflux in the Obese is best treated with the Lap-Band
2. The High Risk Bariatric Patient should have a Lap-Band



Federal Ministerial Senate Inquiry on Obesity

1. Presentation on Improved Public Access, 20th June 2008

Allergan - Obesity Symposium

Q1 Resort, Gold Coast, Australia

26th - 27th July 2008

1. Erosions
2. The LAP-BAND AP System Outcomes
3. Symmetrical Pouch Dilatation

Panel Member for:

1. Clinical Dilemmas
2. Re-operations
3. Research

Media – “Today Tonight” - on Adolescent Obesity

Symposium: Treatments for Obesity in Females with Subfertility
Imperial College, London
10th September, 2008

Outcomes of Pregnancy following Bariatric Surgery

Laparoscopic Adjustable Gastric Banding:
Advanced Training workshop for Surgeons and Associates
Imperial College, London
11th - 12th September, 2008

Course director, surgeon and principal speaker

Australian Advanced Obesity Symposium
Yarra Valley, 17-19th October 2008

Sydney Upper GI Society Annual Meeting
Sydney, November 15 2008

"Obese Refluxers should have a LAGB"

Member of the Victorian Department of Health Taskforce into Obesity Surgery

Report now completed

[Mr Paul Burton](#)

Talks at the Table.

Melbourne, Australia, March 18th

"Video manometry and Lap-Band patients"

American Gastroenterological Association – Digestive Diseases Week
San Diego, May 17th - 22nd

1. Understanding the Physiology of the LAP-BAND using high resolution video manometry

Australian Advanced Obesity Symposium
Yarra Valley, October 17-19th 2008

1. Investigating symptomatic LAP-BAND patients

Australian Cardiovascular Nurses Association Annual conference

Melbourne, December 2008

Obesity, weight loss and cardiovascular risk



[Contact us](#)

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