



## HIGHLIGHTS

### The importance of protein

Continuing our review of the three essential macro-nutrients, read about the most important one.

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### The benefits of sweating profusely

Sweating is good for detoxifying & you can do it while lying down.

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### Linking sense of smell, dementia & other medical conditions

The sense of smell can be an indicator of many health concerns.

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# Finding Joy with Lyme disease

**Morven-May was an active teenager, participating in running, cycling, Munro walking, horse riding, swimming and many other activities until she became so ill that she was forced to leave school. Here she shares her story of recovery at Breakspear Medical and tells us about her newly released novel, which focuses on living with Lyme disease.**

My name is Morven-May MacCallum and I am the author of the novel *Finding Joy*, which is about a family's fight against Lyme disease. I was 16 when I was forced to leave school because the symptoms I had been battling for over a year had finally crippled me. My health was on a continuous spiral of deterioration, as a constant barrage of symptoms overpowered my once strong and able body.

Over a period of three years, I was

wrongly diagnosed three times by GPs and Consultants. During that time, I became almost completely housebound and increasingly bedbound. I was losing everything that made me who I was and everything that makes a person human.

My numerous early blood tests for Lyme disease came back as negative and as a result, the doctors were adamant that I could not have Lyme disease. I was even told, despite

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## Day in the life of... Dr Jean Monro

**Founder and Medical Director of Breakspear Medical, Dr Jean Monro accomplishes more than enough each day to fill the pages of the Breakspear Medical Bulletin. Here is a snapshot of one morning in her work life.**

It's 8.27am on a sunny Wednesday as Dr Jean Monro arrives at the clinic. Her first daily task is to feed the many wild birds that flock above the clinic, waiting for their breakfast.

Born in India and raised on a tea and coffee plantation, Dr Monro has a strong sense of duty to help all God's creatures in whatever way she can. It is a passion that drives her daily.

Returning to her car, she recruits Nurse Manager Mark, who is holding the front door for her, to bring in the rest of her boxes of research papers and training manuals that she had taken home to read prior to going to bed the night before.

Smiling and greeting each person by name as she makes her way to her clinical room, she then sits with a cup of rooibos tea to review all the new pathology test results that have been sent back from a range of laboratories across the UK and abroad. There is one set of results she marks "Urgent!" which is quickly passed to Patient Liaison so they can contact the patient to arrange a telephone appointment as soon as possible. Sometimes she is aware of the urgent test results beforehand, as the laboratories call out of office hours when results are critical. Fortunately today the urgent results are not immediately life-threatening.

At 8.45am, she heads to the Nurses' office to the clinical staff meeting, which is attended by doctors, nurses, nutritional therapists, the healthcare assistant and the phlebotomist to discuss the day's cases. At this brief meeting, each of that day's patients' procedures, testing and treatment are discussed.

While many other members of staff begin their day at 9.00am, Dr Monro returns to her clinical

room to meet with Cheryl from Patient Liaison, Paul, Operations Manager, Sarah, her PA, and Roshnee, Clinical Assistant, to go over a few urgent issues, including a response letter and a bit of preparation for her upcoming Continuous Professional Development (CPD) course in London later in the week. All doctors have to attend a number of conferences and learning events each year to maintain their professional standards by collecting CPD points. They also have to demonstrate they have kept up with medical developments by reading relevant publications and attending mandatory training sessions.

Just before 10.00am, the telephone rings and she is notified that the first of three patients scheduled for her morning consultations has arrived and is waiting in the dining room.

Her morning clinic ends just after 1.00pm, which makes her a little rushed for the Clinical Team's working lunch weekly literature review, where they discuss newly published journals and research papers or any new products which may be suitable for use in the practice. On her way to the meeting, she picks up her specially prepared organic, low-carb, high-protein lunch from the staff dining room and, before taking a bite, she dips into her handbag to retrieve her pot of nutritional supplements to take with her meal.

There are four more consultations scheduled for the afternoon, then a few letters to dictate and quite a few more to check and sign and then she will review the most recently received test results before going home. While the clinic closes at 5.00pm, Dr Monro will likely be one of the last to leave.



# The importance of protein

**Following on from the Issue 41 article, “Let’s talk about carbohydrates”, we continue with our three-part series on the three macronutrients required by the body and explain the importance of protein.**

The three macronutrients required by our bodies are:

- proteins
- carbohydrates
- fat

Proteins are an essential part of every cell in the body and are the most important of the three required macronutrients. When proteins are digested, they are broken down into free amino acids, which are then used as required.

Amino acids are used for muscle and bone growth, strengthening, maintenance and repair, as well as making hormones and new cells, cell signalling, cell division, synthesizing new proteins and

immune response.

Amino acids are classified into two groups:

- essential
- non-essential

Essential amino acids include isoleucine, histidine, leucine, methionine, lysine, phenylalanine, tryptophan and threonine.

The body does not store or produce essential amino acids, therefore it is vital that we consume them from our diet.

They can be found in animal foods like meats, fish, poultry, milk and eggs and plant-based foods such as legumes, lentils, chickpeas, beans, chlorella, watercress,

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## DEFINITION

### Proteins

Proteins are large molecules made from many smaller molecules. Each protein molecule is made up of one or more long chains of amino acids.

Different types of proteins have different functions.

Some examples of proteins in our bodies are:

- keratin - the main component of hair, nails and the outer layers of skin
- collagen - contained in bones, muscles, skin and tendons
- insulin - manages glucose levels in the blood

# The importance of protein

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## PROTEIN GUIDANCE

Here are some examples of the protein contents in various protein-rich foods. All serving sizes are the cooked weights of the food.

Food	Serving size	Protein content
Chicken	85g	28g
Steak	85g	26g
Greek yogurt	170g	18g
Egg	1 large	6g
Lentils	100g	9g
Chickpeas	80g	7g
Peanuts	28g	7g
Quinoa	90g	4g

Where dietary protein intake may be inadequate, protein powders can be used to supplement these amino acids.

Protein powder*	Serving size (approx.)	Protein content
Jarrow Optimal Plant Proteins®	36g	21g
Nutri UltraClear Plus PH™	46g	10g
Jarrow Iso-Rich Soy™	29g	25g
BioZzz powder®	22g	20g
Nutri UltraMeal™	45g	16g

\*These protein powders are vegan and gluten-free and available from Breakspear Medical Pharmacy.

hempseeds, avocados, nuts and chia seeds.

Essential amino acids are particularly important for growth and development during childhood, adolescence and pregnancy.

Non-essential amino acids include arginine, glutamine, tyrosine, cysteine, glycine, proline, serine, ornithine, alanine, asparagine and aspartate. These can be made and stored by the body; however, in certain situations where the body may be under significant stress, it may not be able to produce an optimal amount of these amino acids.

Animal-based foods, such as meat and dairy, are called 'complete proteins' because each serving contains all the essential amino acids. Plant-based foods (except for soy and quinoa, which are complete plant proteins) do not contain all of the essential amino acids and therefore are called 'incomplete proteins'. Different types of incomplete proteins are able to fill in each other's missing amino acids, which means that eating various grains, legumes and vegetables over the course of the day can accumulate to become a complete protein.

As our bodies are not efficient at storing protein (as it is with fat), it is a very important nutrient to regularly consume in sufficient quantities.

Common western diets are high in carbohydrates for breakfast and lunch and with nearly all proteins consumed at dinner. It is best to try to spread your protein intake out throughout the day, having some with each meal. For example, you could incorporate one or two eggs or a scoop of protein powder at breakfast, add grilled chicken or leftover meats from last night's dinner for lunch and then have a portion of fish or lean beef for dinner.

Along with protein providing essentials for the body, it has been found to make people feel fuller longer. A recent study at the University of Warwick concluded that steak, chicken, mackerel, avocados and almonds could help dieters, as they cause a reaction in the brain that makes people feel fuller.

*If you have any questions or concerns about balancing your diet, arrange an appointment with one of our qualified nutritional therapists.*



## The benefits of sweating profusely

**Sweating and the mobilisation of toxins in the fat and circulation bring about detoxification.**

Perspiration (sweat) is the body's way of regulating heat, managing sodium and detoxifying. More and more scientific evidence is being published which shows that perspiration is important for detoxifying the body of manmade materials.

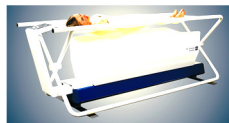
A recently published study from the University of Calgary, Canada, was looking at the accumulation of PBDEs (polybrominated diphenyl ether) in the body. PBDEs are manmade fire retardants which are used in products such as building materials, furniture and textiles.

**This study adds strength to the belief that sweating is good for detoxification of manmade materials from the body.**

The study was looking at five PBDE congeners (congeners are elements of the same compound group) and the researchers found that none of these five were found in the participants' urine samples. Taking that into account, their study focussed on the PBDE levels in blood and perspiration.

The conclusion was that although blood is commonly used for testing PBDE body burdens, it was evident that perspiration aids in excretion of all five common PBDE congeners. The study did not make any conclusions with respect to the ratio of the pollutant load on the body based on the quantities in the perspiration excreted.

While sauna has been used for thousands of years as a detoxifying method, there are other ways of inducing perspiration. Standard saunas heat the exterior body temperature, only slightly raising internal temperatures, while whole-body hyperthermia, using the IRATHERM®1000, increases the body's core temperature safely and quickly, which provides a more intense experience. It induces a controlled, mild to moderate fever state that dramatically increases the metabolic rate, increasing the turnover of fluids in the tissues and provoking a mild involuntary cardiovascular workout.



### Offering whole-body hyperthermia

Breakspear Medical is the first facility in the UK to offer infrared A whole-body hyperthermia sessions, using the IRATHERM®1000.

During the session, the individual lies on a tension net, like a hammock, which is suspended over the source of the heat. During the therapy session the person's temperature, oxygen saturation and pulse are monitored, and the individual is observed by clinical staff.





## Continuing medical education

**A doctor's education is never complete. All doctors must regularly attend lectures and training seminars throughout their careers. Here are just a few of the events Breakspear Medical's doctors have attended in 2017.**

A Responsible Officer (RO) is a very important and respected position to hold. At Breakspear Medical, Dr Jean Monro is the RO, which requires her to attend regular training sessions held by NHS England and the General Medical Council (GMC), which is the independent regulator of doctors in the UK. This ensures that she is prepared to make decisions on doctors' fitness to practice and recommend their revalidation. This year, she has attended an RO Reference Group in London in May and is scheduled to attend another in November.

The International Lyme and Associated Diseases Society (ILADS) is one of the most recognised organisations dedicated to educate, raise awareness and support physicians and other healthcare professionals to provide guidelines for the most advanced diagnosis and treatment for Lyme disease and its associated diseases. ILADS conferences bring together

respected international researchers and clinicians to share the latest information. This year Dr Monro and Dr Daud Mohamed attended the two-day ILADS 7th European Conference in May in Paris, France.

In June, Dr Monro and Dr Peter Julu flew to Madrid, Spain, to the IX International Congress on Environmental Medicine, hosted by the Fundación Alborada.

In September, Dr Monro, Dr Mohamed, Dr Cyprel Ijeh and Professor Basant Puri attended a two-day course aimed to provide key learning points and up-to-date information across paediatrics, which was held at Great Ormond Street Institute of Child Health, London.

These are just a small selection of the conferences, lectures and Continuing Professional Development (CPD) credit courses that the doctors at Breakspear Medical attended and/or presented at in 2017.

## RECOMMENDED RECIPE:

# Banana bread

A gluten-, dairy-, soy-, nut-, egg- and refined sugar-free vegan recipe



## INGREDIENTS:

4 ripe bananas (about 500g) plus 1 for decoration, if desired  
80ml coconut oil, melted  
110g buckwheat flour\*

60g desiccated coconut  
10ml gluten-free baking powder  
5ml vanilla extract

## METHOD:

1. Pre-heat oven to 180°C/fan 170°C/Gas Mark 4.
2. In a blender or food processor, blend the peeled bananas and melted coconut oil until smooth.  
Note: do not over-blend the banana and coconut oil mixture, as this may cause the loaf to become denser.
3. In a medium mixing bowl, combine buckwheat, coconut, baking powder and vanilla. Add the banana and coconut oil mixture and combine well.
4. Pour batter into a greased and lined loaf tin.
5. Decorate the top of the batter with desiccated coconut and slices of extra banana, if desired.
6. Bake in oven for 55-60 minutes or until cooked through.
7. Allow to cool on a baking rack before slicing. Serve warm, toasted or chilled.

If you wanted to make this recipe a little sweeter, you could stir through chopped dates at step 3.

\*Despite the name, buckwheat does not contain wheat and so is a gluten-free pseudocereal. Other naturally gluten-free pseudocereals include amaranth and quinoa. As these may be manufactured at mills that also process gluten-containing grains, it is important to look for 'gluten-free' when buying to avoid contamination.



## Linking sense of smell, dementia & other medical conditions

**Smell and taste disorders traditionally have been overlooked in medical practice because they are often not considered critical to life, despite studies being published since the 1980s which demonstrate their importance.**

Smell and taste are chemical senses that monitor the intake of all nutrients and airborne chemicals into the body which are essential for life. These senses affect everyday enjoyment of food and they allow detection of the potentially dangerous smells, such as smoke. They also show early signs and warning of the development of certain conditions, including neurodegenerative diseases, tremor and nasal problems.

**It is estimated that only 40% of those with smell and taste impairment are actually aware of it.**

Age is a major factor in the deterioration of smell and taste. A very gradual decline starts from about the age of 36, when loss of perception of pleasant odours starts to happen. About half of all apparently healthy subjects in their 80s will have lost any useful sense of smell.

Anosmia (inability to perceive an odour) takes away a vital warning sign of hazards and accounts for many instances of accidental burning. People with poor smell sense are more likely to eat stale or spoiled food and then suffer from minor stomach ailments.

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### RECENTLY IN THE NEWS

A recent study conducted at McGill University, Canada, made newspaper headlines as it concluded that the inability to distinguish between different smells may be the first indication of the onset of dementia.

The study examined 300 people who were at a high risk of developing Alzheimer's disease because they had a parent who had had the condition. The participants were given scratch-and-sniff tests (University of Pennsylvania Identification Test – UPSIT) to identify strong scents, such as chewing gum, petrol and lemon.

The researchers found that those subjects who found it difficult to distinguish smells were those who also had other biological indicators of Alzheimer's disease.



# Linking sense of smell, dementia & other medical conditions

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Anosmia also removes the pleasure of eating and is a recognised cause of weight loss in the elderly. Sadly, the majority of elderly care clinicians rarely ask the elderly about their sense of smell or perform any olfaction tests.

In a recently published medical research paper, a defective smell sense has been identified as an early phenomenon in dementia and Alzheimer's. This has increased the momentum of olfaction gaining attention as a very important sense. (See *Recently in the news* on page 8.)

## Olfaction & gustation tests available

Breakspear Medical's Autonomic Neurophysiology Department is able to measure smell and taste in patients who are suspecting impairment or even having an exaggerated acuity for the two senses. With the results of the sensory tests, diagnosis of many conditions can be more straightforward and make treatment plans more strategically targeted.

These tests are valuable to help diagnose and treat patients at the early stages of many illnesses. For example, Parkinson's disease and Lewy body disease have markedly abnormal smell test results. There is increasing evidence of smell impairment being an early sign (by as much as 20 years) of pending Alzheimer's. Interestingly, while smell loss is associated with Alzheimer's, there are other conditions of cognitive decline where smell function is usually preserved.

Smell tests also can help measure progress after injury. In patients with head injury, repeated smell tests can be used to confirm diagnosis and monitor progress. These tests can also help with diagnosis of brain tumours, as a small smell impairment may be found in some cases.

Allergic rhinitis (hay fever) sufferers rarely experience a loss of smell. Using a smell test can be helpful to distinguish allergic rhinitis from nasal polyps (fleshy swellings in the nose and sinuses) where smell is impaired.

There are many other diseases, infections and conditions that can benefit from smell and taste testing.

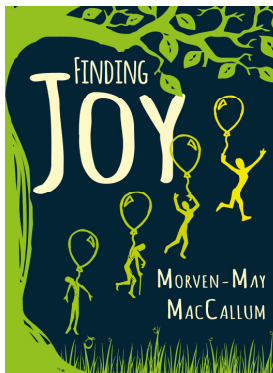
*For a more complete list of the tests available, references or an appointment with Dr Mussadiq Shah, please contact Patient Liaison.*

## Profile



**Dr Mussadiq Shah**  
Clinical Neurophysiologist

Dr Mussadiq Shah has a particular interest in the olfaction (smell) and gustation (taste). As well as working part-time at Breakspear Medical, he works part-time at St Bartholomew's Hospital and The Royal London as Senior Lecturer in Olfaction and Gustation and Autonomic Neurophysiologist at William Harvey Heart Centre Queen Mary University of London. He is one of the very few world experts who can accurately impartially measure and record all smell, taste, autonomic and neurophysiological modalities.



## Finding Joy with Lyme disease

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### Synopsis of the book *Finding Joy*

Joyce is only 16 when she's torn from the life she loves. Two years pass, but Joyce, her family, and her best friend Logan, are no closer to learning what's causing her dizzying array of symptoms. As Joyce tries to come to terms with her increasing limitations those around her struggle to understand what she is going through. Baffled and unsure, the doctors eventually diagnose Joyce with ME/CFS. But when Joyce and her family refuse to accept this diagnosis, her mental stability is called into question. Desperate for the truth and scared for Joyce's life, their only hope lies in a private hospital where she is diagnosed with Lyme disease. Can Joyce survive a treatment as brutal as her illness? Can she find her way in a world she no longer recognises?

Available at [amazon.co.uk](http://amazon.co.uk)

[www.morven-may.co.uk](http://www.morven-may.co.uk)

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living and working in the countryside all my life, that I did not live in an area where you can get Lyme disease.

Despite my increasing debilitation, I constantly pushed myself to attempt to be active because I was told by these doctors that I was not working hard enough. They made me feel as though it was my fault I was unwell.

Before I became ill at 16, I was someone who was always on the go. I went running, cycling, Munro walking, horse riding and swimming. I was up for trying anything! I worked full-time in the holidays and volunteered at an animal rescue centre at the weekends. I was preparing to go to university and to start a new life in a new city, but instead I was left dependent on those around me for my basic care and well-being.

I lived with the erroneous diagnosis of ME/CFS for a long time. During this time, the Lyme disease was allowed to devour my physical and mental strength. I was fortunate in that my family was able to do a huge amount of research into various illnesses on my behalf, as at the time my mental abilities had reduced so much that I struggled to read or follow conversations. My mind just couldn't process information. I was becoming so weak that I struggled to walk even the shortest of distances. I had a baffling array of symptoms, which were staggering, overwhelming and agonising. It was from the research my family did that we became certain that my diagnosis of ME/CFS was incorrect.

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## Finding Joy with Lyme disease

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During my mum's hunt for a diagnosis, she found Breakspear Medical and arranged for me to see Dr Jean Monro and Nutritional Therapist Ron Leon.

For my first appointment, we flew down from the Highlands of Scotland several days in advance so that I could recover from the exertion and be well enough to attend it. Dr Monro thoroughly investigated and examined me and from this I was clinically diagnosed with Lyme disease and co-infections, which was confirmed with positive blood results.

I've been on around six years of treatment at Breakspear Medical and I still have a long way to go, but just being able to be a part of the world again, even in a small way, is extraordinary and I hope I never forget to appreciate that. As my health began to improve, I could slowly feel my mental faculties returning to me, the same way I could feel the strength returning to my muscles with the gentle exercise routine I had put myself on. I relished being able to read and write again. Words have always held a fascination for me and writing has been a huge part of my life ever since I was a child.

As time went on, I felt an increasing need to do something to make people more aware of this devastating disease. I kept hearing stories about people who were having their lives destroyed by Lyme disease and I couldn't stand the idea of not trying to do something to help rectify the situation. It seemed natural to combine my passion for writing with raising awareness but it was hard for me to surrender the only part of my life not tainted by Lyme disease. Writing is my escape and when I write, the world around me disappears and I was reluctant at first to allow the Lyme to invade that.

But some stories need to be told and I felt that this was one of them, so I decided to write a novel from a fictitious point of view, as I felt

this would be far more powerful and emotive. As I was writing, I began to feel that this story was far bigger than that of the main character. I know how this illness profoundly affects the family and friends of the person who is ill and I felt that their story needed to be told, too. I began to write *Finding Joy* from three perspectives to illustrate how Lyme disease takes from all associated with it. Writing in this way allowed me to fully appreciate how miraculous the friends and family who stuck by me truly are. I was also very aware of how dark a story about Lyme disease would be so humour was an important element that I hope I've managed to inject into the story. I have been using *Finding Joy* to help raise awareness for Lyme disease by giving talks at literary and charity events, schools, festivals and bookshops. I have been raising money at these events for Lyme Disease UK who have been wonderful in supplying me with material such as leaflets and posters. It's astounding that so many people have Lyme disease yet still there is such a vast number of people who know little about it. I've learned that a lot of people still don't know how to prevent a tick bite on themselves, their family or their pets. Many people don't know how to remove a tick safely or what the early symptoms are so that they can get treatment as early as possible. I hope, even if in a small way, to rectify this lack of knowledge. It was Lyme Disease UK who kindly invited me to the Scottish Parliament where a debate and meeting about Lyme disease was being held. It was incredibly liberating to be well enough to travel and it was wonderful to see parliament in session. I had never imagined that my novel would be held up before Scottish MSP Maree Todd. It's a moment that I will never forget. I really hope *Finding Joy* can help those who don't have Lyme to understand what it is like to live with Lyme disease and to help those who do to know that they are not alone in what they are going through.

# EasyJet acknowledging aerotoxic syndrome

According to an article in the Sunday Times 17 September 2017, EasyJet has taken the move to fit its aircraft with filters to stop toxic fumes from entering cockpits and passenger cabins. This makes EasyJet the first major airline to passively acknowledge the existence of a condition termed “aerotoxic syndrome”.

Aerotoxic syndrome is the term given to the health concerns caused by inhalation of contaminated cockpit or cabin air. Most modern aircraft draw the unfiltered air supply from the engines, which is called “bleed air”. The cockpit and cabin air contamination can occur by leaks of engine oil or hydraulic fluids into the compressed air, which is then circulated throughout the aircraft. The oils and other fluids contain a range of hazardous substances, such as organophosphates and pyrolysis substances.

The article states there are a reported 292 incidents of fumes or smoke in British aircrafts, which were recorded between June 2014 and May 2015, with illness reported in 96 of them. There are short- and long-term adverse effects, including neurological, neurobehavioural, respiratory and irritant effects.

## Aerotoxic syndrome treatment available

Breakspear Medical offers an array of neurological and biochemical investigations to detect problems and formulate individualised treatment programmes to help treat aerotoxic syndrome and other patients with a body-burden of contaminants. It is important to clear pollutants from the body as fast as possible because the faster the contaminants are excreted, the less likely they are to have a lasting effect.

## Christmas closure notice

The clinic will be closed early on Friday 22 December 2017 and will re-open at 9.00am on Tuesday 2 January 2018.

### Published by



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## Looking back in our files...

### Aerotoxic syndrome

In 2009, BBC Radio 4 interviewed Dr Peter Julu, Specialist Autonomic Neurophysiologist and Consultant Physician at Breakspear Medical, about aerotoxic syndrome.

Dr Julu stated that his tests on British, American, German, Dutch and Australian pilots suffering from memory loss and other symptoms leave no doubt that they were poisoned by contaminated air used to pressurise cabins. He has collaborated with scientists from around the world to test pilots suffering from aerotoxic syndrome.

Following the interview, several newspapers, including the Telegraph and Daily Mail, ran stories on this hot topic, quoting Dr Julu's research and comments.