Chronic Fatigue Syndrome
Diagnosis and Treatment

Dr Richard Schloeffel
My Involvement with CFS Patients

• First diagnosed a patient with Myalgic Encephalomyelitis in 1981.
• Observed since 1981
• From 1996 - over 3500 patients with CFS
• Represents >70% of my current practice
• Attending and presenting papers at CFS Conferences since 1998.
My Involvement with CFS Patients

• Assisted in acceptance of Canadian CFS Guideline for Diagnosis of CFS, and establishment of protocols for investigation and management of CFS, tissue bank and autopsy protocols.
Definition of CFS

Adelaide: June 2005 – Adoption of the Canadian Protocol for the diagnosis of CFS.

1. Fatigue
2. Post-exertional malaise and/or fatigue
3. Sleep dysfunction
4. Pain
Definition of CFS

5. Neurological / cognitive manifestations

6. At least one symptom from two of the following categories A. Autonomic manifestations, B. Nuroendocrine manifestations or Immune manifestations

7. Persistent - > 6 months
Differential Diagnosis

Many diseases present with fatigue and it is very important to exclude these disorders.

- Physiological and Sedentary lifestyle
- Sleep deprivation
- Drugs - Medication (eg: B-blockers)
- Alcohol and drug dependence
- Infectious Diseases - HIV/AIDS, Chronic hepatitis B or C
Differential Diagnosis

- Autoimmune disorders - Systemic lupus erythematosus, Rheumatoid arthritis, Sjogren’s syndrome
- Endocrine disorders - Hypothyroidism, Diabetes Mellitus, Adrenal Syndromes
- Cardio respiratory disorders - Chronic airflow limitation, Cardiac failure
Differential Diagnosis

- Gastrointestinal disorders - Coeliac disease, Inflammatory bowel disease
- Haematological disorders - Anemia
- Sleep disorders - Obstructive sleep apnoea
- Neuromuscular disorders - Myasthenia gravis, Multiple sclerosis
- Metabolic disorders - Hypocalcaemia
Differential Diagnosis

- Metabolic disorders - Hypocalcaemia
- Psychological – Depression, Anxiety disorder, Somatisation disorder, School phobia
- Occult malignancy
- Occupational and environmental factors eg: organic solvents, heavy metals
Investigating CFS

Generally routine pathology tests in patients with CFS are normal. The following are recommended initially:

Investigating CFS

- In addition (as titres), Lyme Disease, Barmah Forest Virus, Ross River Virus, plus HIV, Hepatitis B and C studies
- More useful, due to the findings of Professor Garth Nicolson et al in Gulf War Syndrome, PCR for Mycoplasma, Chlamydia and Rickettsia, DNA Screen for Lyme disease from blood and or urine may be useful
Investigating CFS

- Also consider; 3 hour Glucose Tolerance Test with insulin levels
- IgG Subset
- Thyroid T3, T4, Reverse T3, Antithyroid Antibodies,
- Candida Antibody
- DHEA
- Pituitary Hormone levels
- Synacthen Activation Test
Investigating CFS

- 24 hour Holter monitor in patients with marked cardiac symptoms
- Tilt table testing to determine Neurally Mediated Postural Hypotension (POTS)
- Blood, faeces and urine looking for Protein Metabolism, Free Fatty Acid and Fat Metabolism and Bowel Flora studies
- Nuclear Medicine gastric emptying time studies and bowel transit time in severe GIT Dysfunction with Hyperemesis and weight loss.
Investigating CFS

1. ANTI-GLIADIN ANTIBODY (AGA)
2. DHEA LEVELS
3. TEMPERATURE CHART
4. URINE, BLOOD AND FAECES TESTS
5. LIVE BLOOD ASSAY AND CLOT RETRACTION TESTS
6. PCR TESTS

Observation - in the scores of patients with positive PCR tests for particular organisms that I have been treating, with consequent improvement in their health and CFS.
Investigating CFS

- Gluten sensitivity
- DHEA level
- Temperature chart
- Leaky gut and faeces testing
- Pathogenic cultures
- Lactate/Pyruvate test
- Genetic tests
- CD57
- Vitamin D
Clinical Subtypes of CFS

1. **Post Infective CFS** with ongoing infections especially Mycoplasma, Chlamydia Pneumoniae and viral infections.

2. **LYME Disease CFS** - Patients from Europe, USA, and also Australia.
3 **Gastrointestinal CFS** with severe stomach and bowel dysfunction, and particularly bowel dysbiosis and food sensitivities and intolerances, and leaky gut.

4 **Endocrine CFS** with Thyroid imbalance (Wilson’s Syndrome), adrenal insufficiency and/or insulin resistance and Hypoglycaemia.
Clinical Subtypes of CFS

5. **Sleep Dysfunction CFS** with sleep deprivation syndromes, markedly altered sleep/wake cycles and possible sleep apnoea.

6. **Autonomic Dysnomia CFS** with severe Hypotension (lower blood pressure) and POTS (Postural Orthostatic Tachycardia Syndrome).
Clinical Subtypes of CFS

7. **Neuro Psychiatric CFS** is the dominant symptoms, with extremes of OCD, anxiety, panic attacks and periods of depression.

8. **Fibromyalgia CFS** syndrome with dominance of Myalgia, sleep dysfunction and fatigue.

9. **Genetic disorders** including Mitochondrial Disorders, Marfan Syndrome, Ehlers – Danlos Syndrome, Coeliac Genetic test positive and MTHFR gene and Pyrrole disorder.
Clinical Subtypes of CFS

10. Surgical - including chronic tonsillitis, chronic dental infections, chronic appendicitis, chronic inflammation of the Gall Bladder and Arnold-Chiari Syndrome.

All of the above classifications are very broad and definitely overlap with others. Placing patients into these groups helps in their management and improves their outcome, if managed correctly.
## CFS Patient Profile: 2004 - 2013

<table>
<thead>
<tr>
<th>Causes of CFS</th>
<th>Patient volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycoplasma CFS</td>
<td>157</td>
</tr>
<tr>
<td>Chlamydia Pneumoniae CFS</td>
<td>11</td>
</tr>
<tr>
<td>Rickettsia CFS</td>
<td>7</td>
</tr>
<tr>
<td>Lyme disease</td>
<td>21</td>
</tr>
<tr>
<td>Parasitic infestation / Blastocystis Hominis / Dientamoeba Fragilis / Giardia Lamblia</td>
<td>18</td>
</tr>
<tr>
<td>Candidiasis (incl. Candida Glabrata and Candida Albicans primary infections)</td>
<td>5</td>
</tr>
<tr>
<td>Others (as in previous list, in causes of CFS which are generally non-infective)</td>
<td>81</td>
</tr>
<tr>
<td>TOTAL</td>
<td>300</td>
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</tbody>
</table>
Major Symptom Groups: 2004–2013 (with or w/out infection)

<table>
<thead>
<tr>
<th>Causes of CFS</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal</td>
<td>64</td>
</tr>
<tr>
<td>Endocrine</td>
<td>88</td>
</tr>
<tr>
<td>Sleep Disorders</td>
<td>25</td>
</tr>
<tr>
<td>Autonomic</td>
<td>12</td>
</tr>
<tr>
<td>Neuro-psychiatric</td>
<td>3</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>48</td>
</tr>
<tr>
<td>Genetic Disorders</td>
<td>104</td>
</tr>
<tr>
<td>Surgical</td>
<td>6</td>
</tr>
</tbody>
</table>

Many patients will be in more than one of the identified sub-groups and some will be in several sub-groups.
Use of Antibiotics in CFS

- Doxycycline
- Azithromycin
- Ciprofloxacin
- Minocycline
- Clindamycin
- Clarithromycin
- Nystatin
- Tinidazole
- Ceftriaxone

Dosage
Patient response
Length of treatment
Side effects
Limitations of use
Supportive Measures

➢ Prevention of Fungal Infections

➢ Nilstat / Mycostatin, Fluconazole, Nystatin oral drops, Amphotericin lozenges, Nystatin cream as well as Nystatin vaginal pessaries, Clotrimazole or Miconazole

➢ Probiotics and nutrient support

➢ Acidophilus and Bifidobacter capsules and powder, E Coli, Protein Powders and Prebiotics.
Supportive Measures

- Vitamins and Supplements
  - Vitamin C, Vitamin B plus C, Vitamin B, Zinc, Vitamin E, Co-enzyme Q, Selenium (Sodium Selenite), Chromium, Free fatty acids, Flaxseed oil 10 ml daily or 4 capsules daily, CoQ10, Melatonin, Magnesium, Lipoic Acid, Calcium, Iron, Iodine, Potassium.
Supportive Measures

- Other Medications

- Thyroxine, Liothyronine, Hydrocortisone, Fludrocortisone, DHEA, Amytryptyline, Clonazapane, Guaifenesin, Baclofen, Olmercantan, Atenolol, Oxyconton, Paracetamol, Codiene.
Supportive Measures

- Other Treatments
  - Vascular stockings, CPAP, Diets, Acupuncture, Osteopathic, Chiropractic, Physical Exercise, Psychologist, Naturopathy.

- Notes:
  - Supportive measures are required for the duration of the treatment
  - Watch for adverse reactions
  - Check blood every 1-3 months
  - Response to treatment of Mycoplasma
  - Refer the handout notes for further detail on the treatment of Mycoplasma, Chlamydia, Rickettsia and Giardia
Patient Outcomes – All Treatment Protocols: 2004 -2013

50% Significantly improved
20% Improved
20% Not improved
10% Worse or failed treatment
Conclusion

Chronic Fatigue Syndrome / Fibromyalgia is a very complex and distressing disorder.

The most important aspect in treating this disorder is accurate diagnosis and a commitment to long term management.

In my experience, my patients have been my greatest teachers.
Management of Chronic Infection: A Case Study

Female Age 19:

• Recurrent infections since birth.
• Glandular Fever age 15 followed by CFS
• First seen February 2008 with symptoms:
  • Constant headaches
  • Light-headedness (NMPH)
  • Visual Changes
- Swollen glands
- SOB at rest
- Fast fluttering palpitations
- Constant Diarrhoea
- Lactose and Fructose intolerance
- Severe Myalgia and Arthralgia
- Dermatitis both arms
- Heat sensitivity
- Cold hands and feet
• Severe sleep disturbance (circadian dysrhythmia)
• Sleep paralysis and nightmares
• Able to walk 10 metres only
• Severe obsessive compulsive disorder
• Severe cognitive dysfunction
Family History

- Acne Rosacea
- Raynaud’s phenomena
- OCD
- Sjogren’s Syndrome
Clinical

- Presented in wheelchair
- 45 kilos
- Very cold hands and feet
- Pulse 80-100 bpm
- BP 100/60 sitting 90/60 standing
- Heavily coated tongue
- Axillary lymphadenopathy
- Cyanosis of lips, feet and hands
- Tender muscles and joints generally
Investigations

- Gross abnormal sleep study with 130 arousals over 4 hours of sleep of 8 hour study
- Temperature chart 36.4 - 37.4°C
- Coeliac disease gene positive (not Coeliac)
- 25OHVITD 32 (>51)
- 125DiOHVITD 221 (<175)
- Fasting insulin 16 (<10)
Investigations Continued

- Vitamin B12 169 (145-637)
- FBC, ESR, CRP, MBA20 raised liver enzymes only
- Ferritin 28 (15-200)
- Urinary Iodine 17 (>100)
- TFT Variable
- Faeces Negative
- Urinary Pyrrole 1.9 Negative
Investigations Continued

• PCR – Mycoplasma species Positive
• OPG – Severe impacted wisdom teeth with infection
• Ultrasound of ovaries – PCO
• Gastroscopy – Negative
• Tilt Table Test – Too sick to perform
Diagnosis

- Chronic and recurrent infections since birth
- Post Glandular fever severe CFS
- Mycoplasma infection
- Postural Orthostatic Tachycardia Syndrome
- Obsessive Compulsive Disorder
- Poly Cystic Ovarian Syndrome
- Chronic wisdom teeth infection
Management

• Education of patient and family
• Gluten free, high protein, low carb, fresh food diet
• Water 2-3 litres per day with salts
• Supplements:
Supplements

- Multi-vitamin x 1
- Fish Oil x 4
- Probiotics x 4
- CoQ10 100mg x 1
- Magnesium x 2
- Iodine x 1
- Iron x 1
- Vitamin B12 injections weekly
Sleep

- Melatonin 3mg 1 nocte
- Amytryptyline 10mg 1 nocte
- Clonazapam 0.5mg ¼ to ½ nocte
- Sleep Hygiene
Exercise

• Short leg stockings 20-30mmHg
• 0.5kg free weights
• Walking with pedometer
• Theraband recumbent exercises
Specific Therapies

- Doxycycline 100mg 2 mane with food
- Nystatin 500000 IU 1 bd
- Proton Pump Inhibitor 1 daily for reflux
- Metformin 1 mane for insulin resistance
- Midodrine 5mg 1 tds for POTS
- Escitalopram 10mg 1 mane and Gabapentin 100mg 1 bd for OCD
Specific Therapies Continued

• Tried Fludrocortisone 0.1mg for POTS had adverse reaction
• Adrenal Extract (beef) 30mg 1 mane
• Tried OC Pill had adverse reaction
Progress

• February 2008 - May 2009
  – Remitting relapsing illness

• May 2009
  – Removal of wisdom teeth under Midazalam and NO2 and major leap forward in recovery

• February 2008 – February 2010
  – Continued on Doxycycline 2 daily
Outcome

- February 2010
  - No signs of infection, OCD or POTS, 55kgs
- May 2010
  - Moved out on her own
  - Walking Daily
  - No symptoms of CFS
  - On Clonazapam $\frac{1}{4}$ nocte and Melatonin for sleep
Outcome Continued

– On low carb, high protein diet
– On olive leaf extract and cod liver oil
– Examination normal
– Pathology tests normal
– At Tafe, driving, and has a boyfriend
– Expected full recovery
– Reviewed 2014 fully recovered