









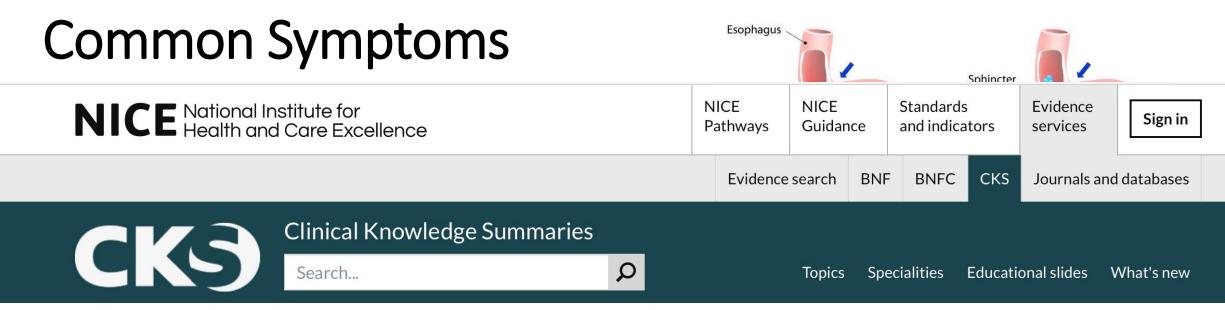
# **Practical Advice**

Prof Bobby McFarland Wellcome Centre for Mitochondrial Research Newcastle University Lily Family Weekend 22<sup>nd</sup>-24<sup>th</sup> June 2018

# Plan

- Common symptoms and their management
- Nutrition and Feeding
- Emergency Admissions
- Education
- Acute illness
- Immunisations
- Operations
- Medicines and Supplements
- Advanced Care Planning

### Gastroesophageal reflux disease



GORD in children - Summary

Have I got the right topic?

How up-to-date is this topic?

Goals and outcome measures

- Gaviscon Smaller more trequent teeds Omeprazole
- Referral to Paediatric Gastroenterologist

AIRWAY OESOPHAGUS



Last revised in March 2015

### GORD in children - Summary

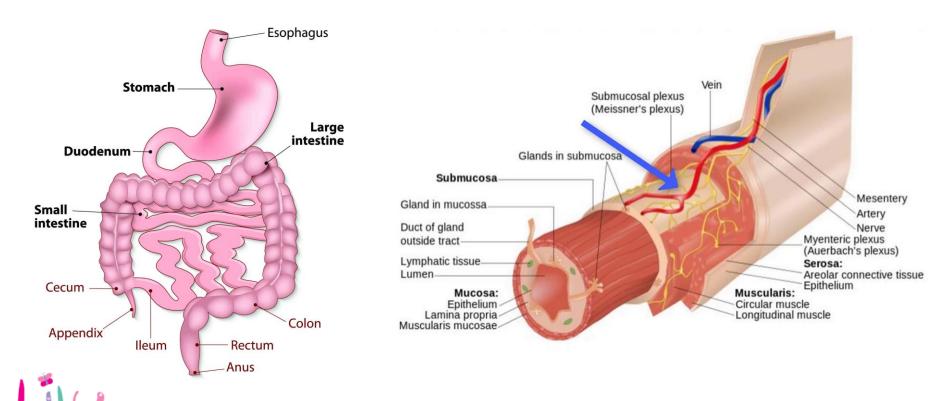
GORD in children

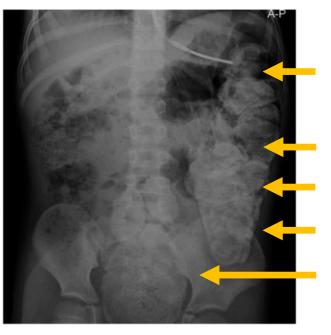
Back to top

### **Common Symptoms**

### **Bowel Problems**

Constipation – Impaction – Pseudo-Obstruction







**Osmotic Laxative** 

# **Common Symptoms**

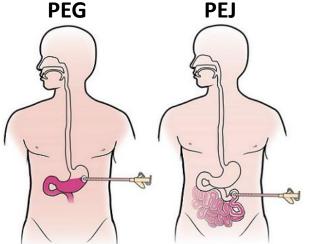
Pain

- Children with mitochondrial disease feel pain just like anyone else
- Recognizing pain in children who cannot communicate
  - Change in mood / sleep / appetite / posture / grimacing or crying
- Associated with specific symptoms?
  - Sudden dislocation of hips
  - Persistent GORD
  - Over-exertion muscle ache
  - Neuropathic pain
  - NOT likely with seizures
- Pain management
  - Minimise exacerbating factors Light/noise/position
  - Paracetamol (unless liver disease and/or Ibuprofen (unless kidney disease)
  - Gabapentin or Pregabalin
  - Oramorph or Fentanyl patch
  - Massage and aromatherapy

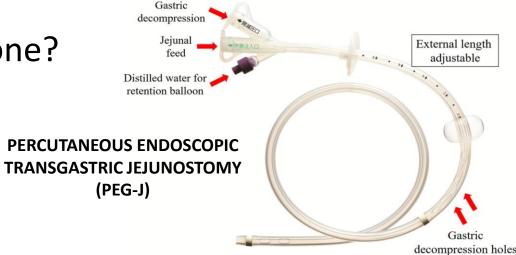


## Nutrition and Feeding

- Balanced diet
  - Slow release carbohydrates
  - Balanced with protein, vegetables/fruit
- Avoid fasting and dehydration
- Multi-vitamin or specific vitamins? Ubiquinone?
- Feeding tubes
  - Nasogastric (NG)
  - PEG
  - PEJ
  - PEG-J







# **Emergency Admissions**

### **Emergency Care Plans**

- What information should I bring to A&E?
  - Emergency Care Plan or recent letter from Mito Clinic
    - Problem list / Medications / Contact List
- Can my medical team be prepared?
  - Named local consultant paediatrician
  - Copies of letters to local team
  - A&E is busy
  - Try to anticipate trouble and contact local team during working hours
- Is it necessary to have advanced planning of scenarios?
  - For some situations this is helpful seizure management / feeding problems / DNAR
- How can we contact a specialist if local clinical team reluctant?
  - Everyone diagnosed with mitochondrial disease should have the opportunity to be reviewed at NHS Highly Specialised Centre for Mitochondrial Disease
  - Contact details are provided by each of these centres e.g Cath Feeney / Alex Bright / Neurology Reg
  - Does every specialist centre have an on-call consultant contact?

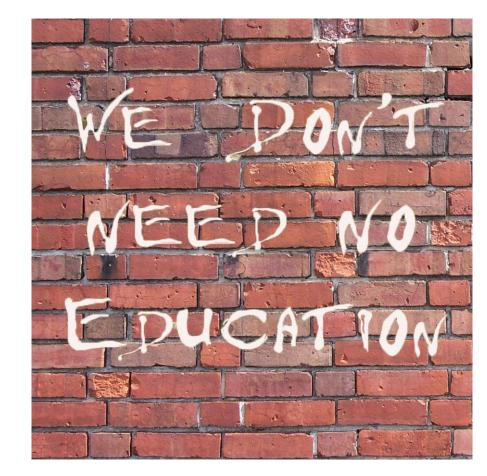


• No



# Education

- Socially very important
- Regular fluids, snacks pre-exercise, awareness of condition / needs / illness
- Access to Physio/OT/SALT



- Education Health Care Plan
  - Children & young people <25yrs who need more support than that available through SEN
  - Identifies educational, health and social needs and sets out additional support to meet those needs



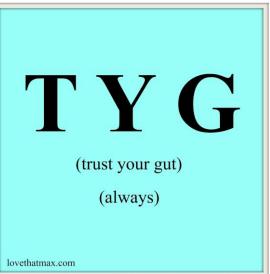
# Acute Illness

- Personal information sheet diagnosis / problems / contacts
- Direct access to local DGH
- Ensure hydration
  - Dioralyte / electrolade
- Eat little and often if possible
- Regular paracetamol if febrile
- Continue regular medication
  - Diabetics to contact local team for advice

### Questions

- Back-up medication Antibiotics on standby?
- How long to wait before seeking help?
- How do we deal with GP's or local teams that think you are a neurotic parent and do not want to listen to you?





# Immunisations & vaccinations

- Continue with routine immunisations
- Annual 'flu' and pneumococcal vaccine

- Holiday vaccines:
  - Discuss with your mitochondrial team
  - Given well in advance
  - Caution with anti-malarials and anti-epileptics





# Operations

- Inform your mitochondrial team!
- May need additional pre-op investigations
- Anaesthetist to be aware fluids / anaesthetics
- Minimise fasting period
- Continue regular medications
- May need PICU / PHDU bed post-op





### Medications to avoid

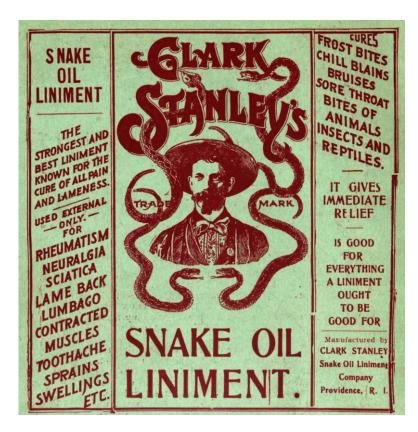
- Sodium valproate
- Propofol (>48 hr)
- Metformin
- Linezolid
- Zidovudine (HIV treatment)
- Gentamicin (m.1555A>G)

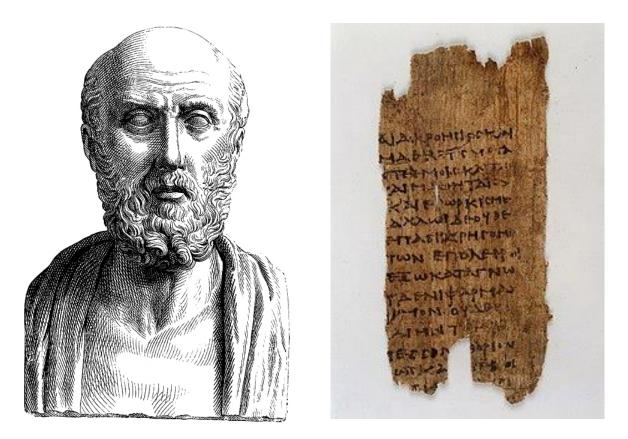


- <u>https://www.mitopatients.org/mitodisease/potentially-harmful-drugs</u>
- IMP workshop in Amsterdam on 1<sup>st</sup> Nov 2018



### Medications, Supplements and Alternative Therapies





"Primum non nocere" - First do no harm



# Medications & Supplements

- Nicotinamide Riboside NAD+ donor
- Pyrroloquinoline quinone (PQQ) / Mitoguard / ATP fuel?



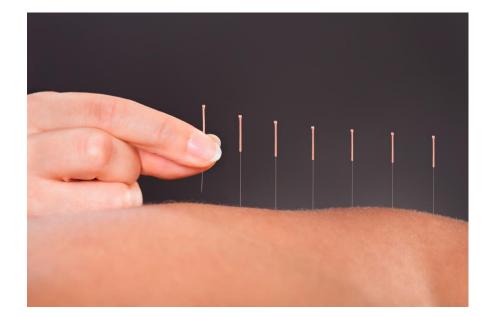
£27.95 for 14 sachets!



**MitoGuard Intensive Vitamins & Minerals ingredients:** 

### Acupuncture

National Center for Complementary and Integrative Health



#### How much do we know about acupuncture?

There have been extensive studies conducted on acupuncture, especially for back and neck pain, osteoarthritis/knee pain, and headache. However, researchers are only beginning to understand whether acupuncture can be helpful for various health conditions.

#### What do we know about the effectiveness of acupuncture?

Research suggests that acupuncture can help manage certain pain conditions, but evidence about its value for other health issues is uncertain.

#### What do we know about the safety of acupuncture?

Acupuncture is generally considered safe when performed by an experienced, well-trained practitioner using sterile needles. Improperly performed acupuncture can cause serious side effects.



# Cranial osteopathy

### Regulated

"Osteopaths have been regulated by statute since 1993. They are trained to diagnose conventionally and also to use their hands to assess body function and dysfunction."

### What do they do?

"Cranial osteopaths use a highly developed sense of touch to feel subtle changes of tension and tissue quality"

"...osteopaths **do not** primarily treat medical conditions; they are more concerned with the cascade of events which could have contributed to the development of those medical conditions."

### Is there a Scientific Basis?

"Cranial osteopathy is difficult to 'prove'."







# Homeopathy

### Society of Homeopaths

#### What is Homeopathy?

"Homeopathy is a holistic medicine which uses <u>specially</u> <u>prepared</u>, highly diluted substances (given mainly in tablet form) with the aim of triggering the body's own healing mechanisms."

#### How does homeopathy work?

"Homeopathy is based on the principle of "like treats like" – that is, a substance which can cause symptoms when taken in large doses, can be used in small amounts to treat similar symptoms."

#### Is there a scientific basis?

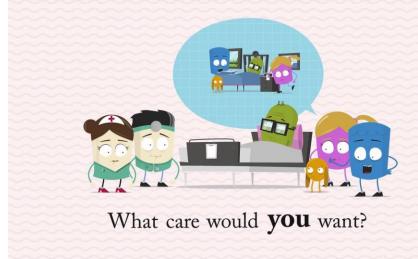
No. Does that stop people using it? No – lots of celebrities listed!







# **Advanced Care Planning**



- Agreed plan of care with medical and nursing team
- Followed if / when your child's condition deteriorates
  - Gradual deterioration
  - Sudden emergency
- Specific to the needs of your child and your family
- Shared with all professionals involved in your child's care
- Changes to the document can be made at anytime
  - Including when an emergency occurs





"Too often we go about creating medicines for people without having asked the patients what <u>they</u> actually want." ANDREA FERRIS Lungevity Foundation

### Patient Preferences

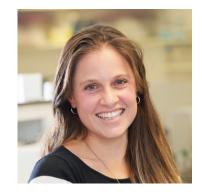
- -1. What matters?
- -2. How much it matters?
- -3. What trade-offs are patients willing to take?



### About the **PREFER** project

**Contact Cecilia Jimenez** 

Cecilia.Jimenez-Moreno@ncl.ac.uk









The Patient Preferences in Benefit-Risk Assessments during the Drug Life Cycle (PREFER) is a five year project that has received funding from the **Innovative Medicines Initiative** 2 Joint Undertaking under grant agreement No 115966. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and **EFPIA**.