Catatonic Regression in Down Syndrome
- unrecognized & treatable cause of Regression

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Down Syndrome
Association of
Greater St. Louis
August 5, 2017

No Disclosures
Down Syndrome Clinic
Dr. Catherine Harris

Goal:
Healthy, Happy & Productive Children & Families

Means:
Down Syndrome Specific Care Child & Adult Specific care

Annual Anticipatory Health Maintenance
Childhood Health

- Infections (respiratory, otitis)
- Hearing loss - 60-80%
- Vision problems - 70%
- Hypothyroid - 20%
- Celiac - 5% - 15%
- Atlanto-axial instability - 14%
- Seizures - 8%
- Sleep apnea – 50%
- Periodontal disease – 90%
- Nutrition
Adolescent Health Issues

- Weight gain
- Skin infections - 50%
  - perigenital, buttocks, thighs
- Psychiatric-
  - depression, conduct, adjustment
- ~ to childhood issues

Social Interactions

- Friends
- Leisure activities / recreation
- Self confidence, self respect, self esteem
- Judgment skills
- Social skills
- Inclusion
Concerns for Adults

- Where will they live?
- Vocational opportunities
- Social life
- Psychosocial adaptation
- Maintain intellectual function
- Health maintenance
- Regression
Down Syndrome Regression

Pre 2014

- Significant Minority of DS People Regress
  - Limited data suggests 3.5-25%
  - Age range = 15 and up (*this is not fixed*)
  - High & low functioning individuals

- Many causes of regression – ex. Seizures, depression, dementia, hydrocephalus, encephalitis, strokes, tumors, autoimmune diseases, cataracts, cord compression, Alzheimers

- Detailed history & physical & testing
  - Vision, hearing, blood & urine, EKG
  - Brain – EEG, MRI, Neck x-rays, Spinal tap

- Default Diagnoses
  - Depression, schizophrenia, other psychiatric
  - Early Alzheimers
  - “Just the Down Syndrome”
Catatonia Syndrome

- 1848 – catatonia described as part of schizophrenia
- Since ~ 2000 → catatonia in neurologic & medical disorders
  - Psychiatric – especially affective disorders (bipolar) > Schizophrenia
  - Medication effects – (atypical antipsychotics, amoxicillin, azithromycin, etc)
  - Hydrocephalus, strokes, head trauma injury, seizures, SIADH, Tourettes
  - Infections – encephalitis, hepatitis encephalopathy, meningitis, neurosyphilis
  - Endocrine disorders (hyper & hypothyroidism, diabetes)
  - Autoimmune diseases (Autoimmune encephalitis, Graves disease, Lupus, celiac).
  - Metabolic encephalopathy – Homocystinuria, carnitine disorder, Wilson’s Disease
  - Folate receptor Alpha Defect → cerebral folate deficiency
  - AUTISM
  - Stress, bullying

Neurodevelopmental disorders →
  - Down Syndrome (Ghaziuddin et al. 2012), Autism, Kleefstra syndrome (9p-),
    cerebellar dysgenesis, congenital hydrocephalus, Prader Willi syndrome, Fra X
  - Isn’t really new

2014 → DSM-5 - Catatonia is an independent dx
  - Diagnosis based on specific symptoms
Andy’s Story

Yes I Can! Award
till 2013…
Andy trying to close a door

note:
- Motor slowing
- Freezing
- Repetitive attempts
- Withdrawn facial expression
Andy trying to eat

note:

Arm & shoulder movements
Motor slowing
Freezing
Repetitive attempts
note:

Speed
Looking
Noticing
Smiling
note:

Fast
Interactive
Smiling
Motor activity - slowing, getting stuck, hyper outbursts
Speech - decreased, mute, slow
Withdrawal - ↓engagement (people/environment) ↓noticing
Mood - flat, ↓enjoyment, depression, aggression
Negativism – refusing to participate, follow instructions
Stereotypic movements - tics, posturing, grimace
Abilities - ↓skills, self care/daily living skills
Eating, sleeping – slow, refusal, weight loss

Bush-Francis Catatonia Rating Scale (handout)
Screening Score = # of items 1-14 that are present.
Diagnosis = 2-3 or more items
Bush-Francis Catatonia Rating Scale

Screening Score (Presence or absence of items/symptoms 1 – 14) ____________

Severity Score (Number of points for items/symptoms 1 -23) ____________

1. Immobility/stupor: Extreme hypoactivity, immobile, minimally responsive to stimuli.
2. Mutism: Verbally unresponsive or minimally responsive.
3. Staring: Fixed gaze, little or no visual scanning of environment, decreased blinking.
4. Posturing/catalepsy: Spontaneous maintenance of postures, (sitting, standing for long periods)
5. Grimacing: Maintenance of odd facial expressions.
6. Echopraxia/echolalia: Mimicking of examiner's movements (echopraxia) or speech (echolalia).
7. Stereotypy: Repetitive, non-goal-directed motor activity (e.g. finger-play, touching, patting etc)
8. Mannerisms: Odd, purposeful movements (hopping or walking tiptoe, saluting passers-by)
9. Stereotyped & meaningless repetition of words & phrases Repetition of phrases or sentences
10. Rigidity: Maintenance of a rigid position despite efforts to be moved
11. Negativism: Apparently motiveless resistance to instructions or attempts to move/examine patients. Contrary behavior, does exact opposite of instruction.
12. Waxy flexibility: During repositioning of patient, patient offers initial resistance before allowing him/herself to be repositioned
13. Withdrawal: Refusal to eat, drink and/or make eye contact.
14. Excitement: Extreme hyperactivity, constant motor unrest which is apparently non-purposeful.
Staring, Withdrawal & Poor eye contact
Facial grimaces, shoulder shrugs, & body tics
15. **Impulsivity:** Patient suddenly engages in inappropriate behavior (e.g. runs down hallway, starts screaming or takes off clothes) without provocation.

16. **Automatic obedience:** Exaggerated cooperation with examiner's request or spontaneous continuation of movement requested.

17. **Passive Obedience:** Patient raises arm in response to light pressure of finger, despite instructions to the contrary.

18. **Muscle Resistance:** Involuntary resistance to passive movement of a limb to a new position.

19. **Motorically Stuck:** Patient appears stuck in indecisive, hesitant motor movements.

20. **Grasp reflex:** Striking the patient’s open palm with two extended fingers of the examiner’s hand results in automatic closure of patients hand.

21. **Perseveration:** Repeatedly returns to same topic or persists with the same movements.

22. **Combativeness:** Belligerence or aggression, Usually undirected, without explanation.

23. **Autonomic abnormality:** Abnormality of body temperature (fever), blood pressure, pulse, respiratory rate, inappropriate sweating, flushing.
### Table 1. Medical conditions associated with development of catatonia

- Infections
- Illicit drug use
- Cerebrovascular dx
- Electrolyte imbal
- Vitamin B12 def.
- Seizures
- Hepatic transplant
- Thyroid disease
- Diabetic ketoacidosis
- Lupus
- Sheehan syndrome
- SIADH
- Lesions of the CNS
- Fabry disease
- Drug withdrawal
- Encephalitis
- Poor nutrition
- Homocystinuria
- Hepatic - encephalopathy
- Renal transplant
- Wilson’s disease
- Head trauma
- Metabolic abn
- Severe weight loss
- Porphyria
- Iatrogenic illness
- Med side effects

### Table 2. Medical conditions that may have presentations similar to catatonia

- Arteriovenous malformations
- Cerebrovascular accident
- Encephalitis
- Fibromuscular dysplasia
- Huntington’s disease
- Meningitis
- Neurosyphilis
- Parkinson’s disease
- Progressive multifocal Leukoencephalopathy (PML)
- Seizure disorder
- Central pontine myelinolysis
- Hallervorden-Spatz
- Lewy body dementia
- Neurosarcoidosis
- Other white matter dx
- Parkinsonism
- Progressive - supranuclear palsy
- Strychnine poisoning
- Cortical basal – ganglionic degenerate.
1st Diagnosis

2nd Assess causes of motor & cognitive regression, known causes of catatonia & autoimmune dysfunction

**History** – change from baseline, timeline

Bush Francis Catatonia Rating Scale

**Physical exam** – observation, neurologic

Lorazepam 2mg IV test dose

**Neurologic** – MRI, EEG, LP

**Immune dysfunction**:
- ASO (Streptolysin O Ab), DNase B Ab, Thyroglobulin Ab, Thyroid Peroxidase Ab, FANA, Lupus Anti StaClot, Celiac serology, IgG NMDAR Ab, GAD, Cunningham Immune Panel (Moleculara lab)

**Brain Metabolism**:
- Dopamine metabolism disorder (low HVA & 5HIAA), CSF Neopterin, Cerebral folate deficiency ([www.mnglab.com](http://www.mnglab.com))

**Intermediary metabolism**:
- Homocystinuria, carnitine disorders, Wilson’s disease, vitamin B12, B6, folate
First Line Treatments

GABA agonists

- High dose benzodiazepines – 1\textsuperscript{st} line therapy
  - Lorazepam – start at 2 mg/day PO, may go up to 25 mg/day (slowly)
  - Side effects – sleepiness, dizziness

- Modified ECT – 2\textsuperscript{nd} line therapy → 80% - 100% effective
  - Ambulatory surgery suite (anesthesiologist/psychiatrist/nurse)
  - Sedation – brief with etomidate, methohexital, propofol
  - Muscle blockade – succinylcholine
  - Oxygenation
  - MECTA 5000Q - Brief-pulse (4 sec) bitemporal/bifrontal electrode

- Resistance: lack of knowledge, media, legal restrictions
  - Ghaziuddin, Electroconvulsive Therapy in Children & Adolescents, 2013
Electroconvulsive shock – ECT
for Catatonia in adolescents – 2nd line treatment

- **Adults:** 75+ years standard of care for catatonia
  - Refractory depression, bipolar, mania, psychosis, neuroleptic malignancy
  - Efficacy - 80-100% for catatonia
  - Safety – no structural, histopathologic or cognitive damage after ECT with prolonged maintenance
    - 4 deaths/100,000 treatments – mainly due to cardiac disease in the elderly

- **Children:** *should be safer than adults*
  - 3 controlled studies, 1 analysis of 59 adolescents
  - Am Acad Child Adol Psychiatry best practice parameters (2004) - similar to adults
  - No deaths reported in adolescents or children
  - Risks similar to short term anesthesia

- **Resistance:** lack of knowledge, media portrayal, legal
  - **Side effects:** transient memory loss, prolonged seizure, headache, nausea, muscle aches
  - Lack of long term studies:
  - Laws vary by State – California & Texas are most restrictive if < 18.
    - Missouri – court approval for incompetent individuals
Missouri Revised Statutes
Chapter 630
Department of Mental Health
Section 630.130
August 28, 2010

Electroconvulsive therapy, procedure—prohibitions—attorney's fees.

630.130. 1. Every patient, whether voluntary or involuntary, in a public or private mental health facility shall have the right to refuse electroconvulsive therapy.

2. Before electroconvulsive therapy may be administered voluntarily to a patient, the patient shall be informed, both orally and in writing, of the risks of the therapy and shall give his express written voluntary consent to receiving the therapy.

3. Involuntary electroconvulsive therapy may be administered under a court order after a full evidentiary hearing where the patient refusing such treatment is represented by counsel who shall advocate his or her position. The therapy may be administered on an involuntary basis only if it is shown, by clear and convincing evidence, that the therapy is necessary under the following criteria:

(1) There is a strong likelihood that the therapy will significantly improve or cure the patient's mental disorder for a substantial period of time without causing him any serious functional harm; and

(2) There is no less drastic alternative form of therapy which could lead to substantial improvement in the patient's condition. At the conclusion of such hearing, if the petitioner has sustained his burden of proof, the court may order up to a specified number of involuntary electroconvulsive therapy treatments to be performed over a specified period of time.

4. Parents of minor patients or legal guardians of incompetent patients shall be required to obtain court orders authorizing electroconvulsive therapy under the procedures specified in subsection 3 of this section.

5. Persons who are diagnosed solely as mentally retarded shall not be subject to electroconvulsive therapy.

6. If the judge finds that the respondent is unable to pay attorney's fees for the services rendered in the proceedings the judge shall allow a reasonable attorney's fee for the services, which fee shall be assessed as costs and paid together with all the costs in the proceeding by the state, in accordance with rules and regulations promulgated by the state court administrator, from funds appropriated to the office of administration for such purposes provided that no attorney's fees shall be allowed for services rendered by any attorney who is a salaried employee of a public agency or a private agency which receives public funds.


(2006) Section allows a healthcare provider who has a duty of care to act in the patient's best interest, even if the patient has refused treatment, if the patient is in need of the therapy. In re Dunn, 181 S.W.3d 601 (Mo.App.E.D.).
Pathophysiology – 3 neurotransmitter problems

1. ↓GABA (hypoactivity)
   - GABA/Glutamate neurotransmitter system disruption
     - GABA – inhibitory neural transmission
     - Glutamate – excitatory neural transmission
   - Goal = increase GABA
     - Benzodiazepines, ECT, Barbiturates

2. ↑Glutamate (hyperactivity)
   - NMDA receptor dysfunction
   - Goal = decrease glutamate
     - Memantine, Amantadine, Nuedexta (NMDAR antagonists)

3. Dopamine (D2) hypoactivity
   - Amantadine – facilitates central dopamine release & delays uptake
Other Treatments

- **Glutamate antagonists:** ↓ glutamate
  - Namenda (*Menentine*)
  - N-acetylcysteine (*NAC*), Minocycline
  - Topiramate/Topamax
  - Nuedexta 20/10

- **Anti-inflammatory:**
  - Minocycline – ↓ Cerebral inflammation
  - Autoimmune dysfunction → inflammation
  - May also be a NMDA receptor antagonist

- **Behavioral therapy**
  - Mitigate stressful exposures
  - Provide enjoyed activities

- **Good medical care**
  - Stop most other meds
  - Sleep hygiene
  - Dietary
# Catatonia Improvement Scale-DS

<table>
<thead>
<tr>
<th>Amount of Movement</th>
<th>Frequency</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the past 1 week, how often he/she had?</td>
<td>0=never  1=sometimes  2=often  3=always  4=always</td>
<td>0=not at all  1=mild  2=moderate  3=moderate-severe  4=severely</td>
</tr>
<tr>
<td>1. Is immobile</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>2. Holds a stiff posture</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>3. Slow movements and daily activities</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>4. Low activity level</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>5. Gets stuck in movements -</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
</tbody>
</table>

## Kinds of Movements

<table>
<thead>
<tr>
<th>Kinds of Movements</th>
<th>Frequency</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Makes odd facial expressions</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>7. Makes repetitive, stereotypic movements</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>8. Has involuntary movements</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>9. Has odd mannerisms -</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>10. Has episodes of extreme hyperactivity with constant motion</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>11. Resists being moved</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>12. Will move an arm with minimal pressure or suggestion</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
</tbody>
</table>

## Talking

<table>
<thead>
<tr>
<th>Talking</th>
<th>Frequency</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Doesn’t talk – quiet</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>14. Doesn’t initiate conversations</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>15. Mimics other’s speech</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>16. Repeats words or phrases that don’t mean anything or are not in context</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>17. Perseverates</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
</tbody>
</table>

## Withdrawal

<table>
<thead>
<tr>
<th>Withdrawal</th>
<th>Frequency</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Withdrawn from people around her</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>19. Stares into space</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>20. Doesn’t respond to requests</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>21. Doesn’t eat all her food &amp;/or isn’t drinking enough water</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>22. Doesn’t focus and engage in school, work or recreational activities</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
<tr>
<td>23. Doesn’t seem to notice the things around him/her</td>
<td>0  1  2  3  4</td>
<td>0  1  2  3  4</td>
</tr>
</tbody>
</table>

## Scoring

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>not at all</td>
</tr>
<tr>
<td>1</td>
<td>mild</td>
</tr>
<tr>
<td>2</td>
<td>moderate</td>
</tr>
<tr>
<td>3</td>
<td>moderate-severe</td>
</tr>
<tr>
<td>4</td>
<td>severely</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Score</th>
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<tbody>
<tr>
<td>3</td>
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<tr>
<td>4</td>
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<td>4</td>
<td>4</td>
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<tr>
<td>0</td>
<td>0</td>
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</tbody>
</table>
Catatonia Scores - June 2013 - June 2015

Lorazepam

ECT

Frequency

Impact

https://showmeportal.missouri.edu/redcap/surveys/?s=PNTUbpiHI8
Catatonia Impact Scale

July 2016 – July 2017

CIS Frequency
CIS Impact
Lorazepam (mg)
Nuedexta (mg)
ECT (date)
Complications of Catatonia
Physical & Medical

• Malignant Catatonia –
  • Severe autonomic nervous system impairment
  • Associated with neuroleptic medication
  • Fever, hypertension, incontinence

• Malnutrition, starvation, dehydration –

• Disorders of immobility
  • Venous thrombosis
  • Bed sores

• Unable to live at home
  • Nursing home or residential care facility
Problems We Want to Solve

1. No one has heard of catatonia in DS
   Very few Diagnostic & Treatment programs
   Want to make families & physicians aware of Catatonia + DS
   Are there DS specific differences that could affect treatment choices

2. Misdiagnoses are very common - Depression, Alzheimers, Hashimoto’s encephalopathy, PANS, willfulness

3. Treatment is difficult – less responsive than catatonia occurring in many of the psychiatric disorders

4. Parental caregiving is 24/7 - help for families

5. ECT scares people – parents, pediatricians, psychiatrists, courts
   ECT is forbidden in children in a few states
### DS Specific Characteristics - 7 young adults

<table>
<thead>
<tr>
<th>Age</th>
<th>22</th>
<th>22</th>
<th>35</th>
<th>26</th>
<th>26</th>
<th>19</th>
<th>25</th>
<th>19-33yo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>M</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>1M:6F</td>
</tr>
<tr>
<td>Cytogenetic dx</td>
<td>T21</td>
<td>T21 + 16p dup</td>
<td>T21</td>
<td>T21</td>
<td>T21 mosaic</td>
<td>T21</td>
<td>T21</td>
<td></td>
</tr>
<tr>
<td>Onset age to</td>
<td>18</td>
<td>13</td>
<td>25</td>
<td>15</td>
<td>26</td>
<td>16</td>
<td>19</td>
<td>1mo-10yr Ave = 4.8yr</td>
</tr>
<tr>
<td>Diagnosis age</td>
<td>19</td>
<td>19</td>
<td>33</td>
<td>25</td>
<td>26</td>
<td>19</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Type of onset</td>
<td>Abrupt over 6mo</td>
<td>Gradual over 6yr</td>
<td>Abrupt 6mo</td>
<td>Gradual over 2yr</td>
<td>Abrupt 1 week</td>
<td>Gradual over 2yr</td>
<td>Gradual over 3yr</td>
<td>3 abrupt /4 gradual</td>
</tr>
<tr>
<td>Initiating stress</td>
<td>none</td>
<td>Boys in SEd</td>
<td>Death of father</td>
<td>Leaving HS</td>
<td>none</td>
<td>Father ill</td>
<td>Divorce</td>
<td>5/7</td>
</tr>
<tr>
<td>Initiating illness</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0/7</td>
</tr>
<tr>
<td>Adaptive functioning</td>
<td>High</td>
<td>Very low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Reading grade</td>
<td>7th</td>
<td>None</td>
<td>4th</td>
<td>5th</td>
<td>5th</td>
<td>2nd</td>
<td>&gt;7th</td>
<td>None to &gt;7th</td>
</tr>
<tr>
<td>Congenital Problems</td>
<td>---</td>
<td>---</td>
<td>ASD- cs</td>
<td>ASD- cs</td>
<td>ASD, PDA- cs</td>
<td>AV canal repaired</td>
<td>---</td>
<td>4/7 cong. heart. 1/7 surg</td>
</tr>
<tr>
<td>Medical Problems</td>
<td>Myopia, esotropia, OSA*, C-Pap*</td>
<td>OSA - ASD</td>
<td>Esotropia, Mild OSA*</td>
<td>CVT (20yo) OSA*, C-Pap*</td>
<td>Morbid obesity</td>
<td>Aphasia, Apraxia</td>
<td>---</td>
<td>1 ASD, 4 OSA, 2 C-Pap</td>
</tr>
<tr>
<td>Autoimmune Dx</td>
<td>Hypothyroid* Alopecia areata</td>
<td>Celiac, Hypothyroid</td>
<td>none</td>
<td>Celiac*, Hypothyroid, AI</td>
<td>Celiac* Hypothyroid</td>
<td>none</td>
<td>Hypothyroid*</td>
<td>3/7 celiac &amp; 5/7 hypothyroid</td>
</tr>
</tbody>
</table>
Currently 10 patients with Catatonia, 7 with DS, 4 with Autism

DS MIG – establishing a protocol

Autism Treatment Network – starting to work on a protocol
Conclusions

- **Catatonia in DS is:**
  - Severe neuropsychiatric disorder → inability to function at home, school, work
  - Pathophysiologically similar to Catatonia in other disorders
    - autism, depression, lupus, encephalitis & other neurologic disorders
    - all respond to the same basic treatments
  - There may be **DS specific mechanisms or triggers**
    - Immune dysfunction
  - Probably a **common cause of deterioration** in teens
  - **Need research, advocacy and awareness**
    - prevalence, symptom profile, treatments, basic neuroscience
Thank you to the young people & their families who teach us & help every step of the way.