Signs and symptoms that define critical clinical events

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"My advice to other disabled people would be - concentrate on things your disability doesn't prevent you doing well, and don't regret the things it interferes with. Don't be disabled in spirit as well as physically." -Stephen Hawking

Objectives

- Learners will be able to compare and contrast a critical event change in a stable individual, including parameters for normal versus abnormal vital signs.
- Learners will be able to defend the crucial role of vital signs in bedside clinical assessments.
- Learners will be able to develop an assessment and action plan for one adverse event scenario.
- Learners will be able to critique an example of an adverse event scenario and be able to outline a plan of action in the event it occurs again.

Exam observation

- Crucial first step:
  - Don't touch, just observe and listen!

Exam Observation (continued)

- General observation of the person
  - Constitution (How does the person look?)
    - Look and assess what you see
      - For example: What are some of their changes in behavior or physical presentation?
        - Exhibiting outbursts
        - Increased self-injurious behaviors
        - Looks lethargic, appears weak, in mild distress, or no distress
  - How did they look when you first saw them?
  - How did they enter the room?
    - Ambulated independently
    - Ambulated with assistance
    - Walker
    - Wheelchair
  - Positioning (off-loading pain)
  - Sad, happy, agitated, writhing, anxious

Exam Observation (continued)

- Objective and subjective findings
  - Continue to ask the DSPs for their input
    - What did they see, witness, hear (did the person say what was bothering them, or did they point to a body part, or guard an area when someone was near them)?
    - What are their thoughts?
  - Continue to listen to DSPs, LPNs, RNs, and people around the person you are observing
  - Continue to make yourself available to hear the people and their input
  - Continue to involve the entire health care team
    - Input
    - Ask for help or information when you don't know the answer or want a second opinion

Exam observation (continued)

- Observe the systems
  - Integumentary
  - Cardiac
  - Respiratory
  - GI
  - GU
  - Neurological

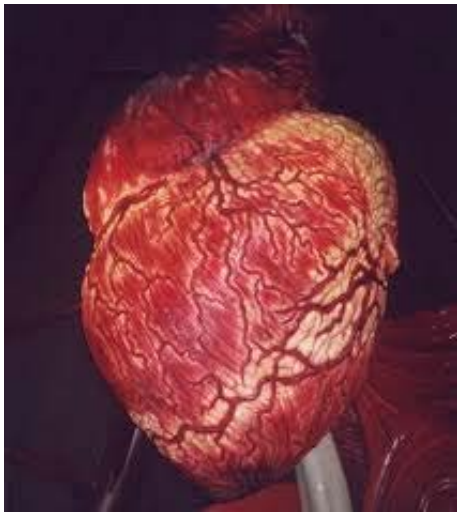
  - (systems above are only examples; observe all the body systems for a holistic view of the person)

Observe the systems

- Integumentary
  - Reported changes, both objective and/or subjective

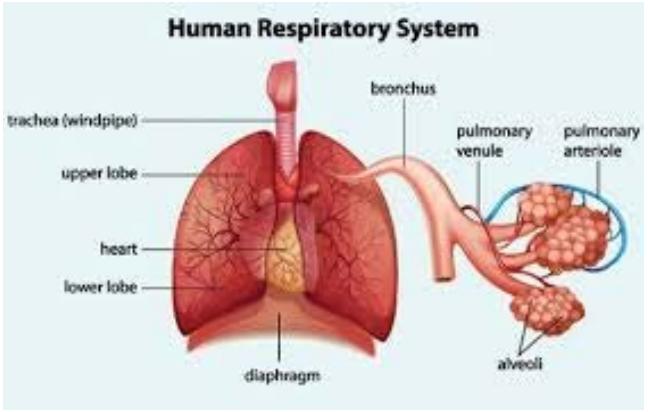
Observe the systems (continued)

- Cardiac
  - Reported changes, both objective and/or subjective



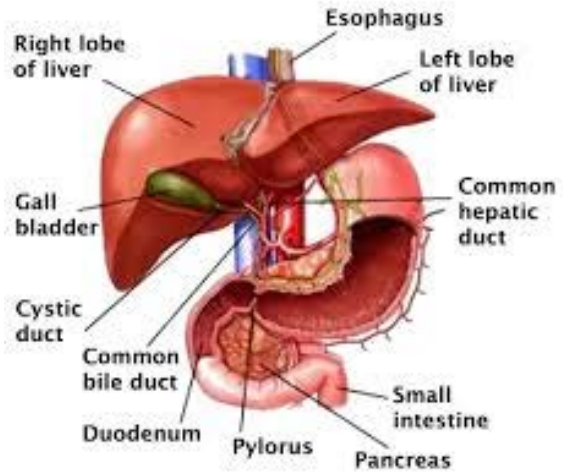
Observe the systems (continued)

- Respiratory
  - Reported changes, both objective and/or subjective



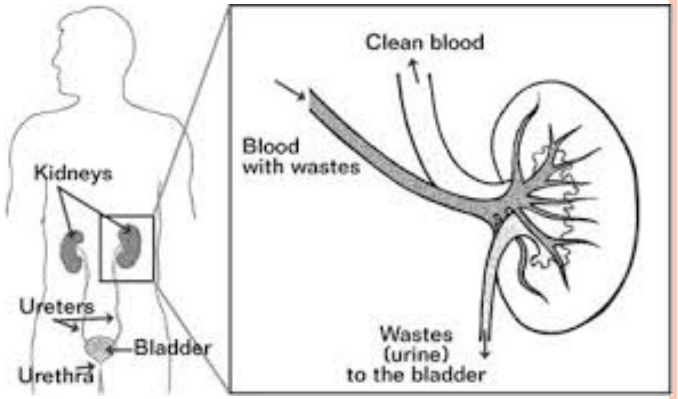
Observe the systems (continued)

- GI
  - Reported changes, both objective and/or subjective



Observe the systems (continued)

- GU
  - Reported changes, both objective and/or subjective



Observe the systems (continued)

- Neurological
  - Reported changes, both objective and/or subjective

Exam observation (continued)

- What are some of their changes in gait?

Exam observation (continued)

- What are some of their changes in mentation?

Exam observation (continued)

- What are some of their changes in adaptive behaviors?

Exam Observation (continued)

- How accessible is the patient. The patient may refuse to have you touch a certain area.
  - You reach out for them and they withdraw because of presence of pain
- This may be important related to your findings
  - Guarding could be due to pain or discomfort
  - Refusal to eat may be due to pain in the mouth, throat, or esophagus

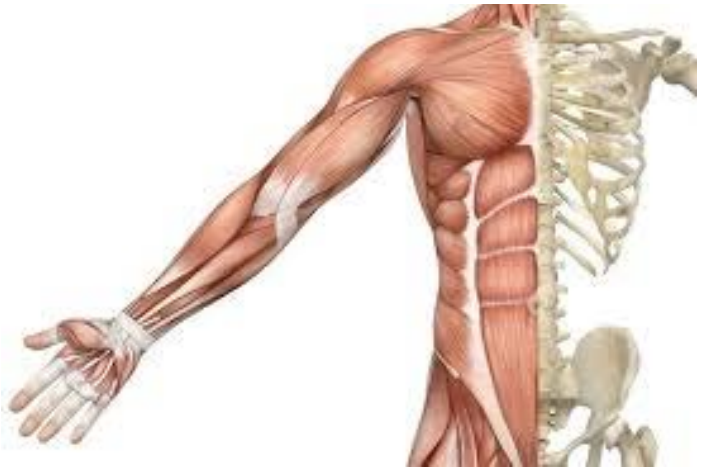
What you might hear?

- A caregiver might say:
  - "The person just appears different."
  - "Something isn't right."
  - "I have a bad feeling about this change."
  - "Can you be a second set of eyes and tell me what you think?"
- A caregiver might report:
  - Decrease in activity or appetite
  - Increase in "acting out"
  - Changes in baseline

When will you see these changes?

Strength and sensory changes

- Strength assessment
  - Learn history of the person
  - Demonstrated weakness (different from baseline)
    - Assessment of ADLs
    - Ambulation
- Sensory (cold and hot temperature changes)
  - Associated with neurological exam
    - Back of the reflex hammer (metal, cold)
    - Discerning variations in fluid temperature
      - Consideration for diabetics
        - Oral temperature sensation
        - Discrimination between hot and cold reaches a threshold
          - Burns
          - Loss of feeling
          - Numbness



Strength and sensory changes (continued)

- Vibrations
  - Neurological exam
  - Discriminating vibrations from vibratory instrument

Environmental assessment

- Often not included in the assessment…but should be…
  - Ask about…
    - Contact exposure
      - Exposure to someone else who is sick
      - Ask the DSP if anyone else at home or work/day program is sick
    - Changes in living situation
      - New caregiver, new agency, new roommate, new house mate
    - Changes in staff

Environmental assessment (continued)

- Behaviors are off. You might think it is pain or illness, but it is actually from a change in the environment
  - the person working with them isn't their normal staff
  - they have a new house mate and they aren't sure they like the person yet
  - they don't like the new staff's cooking…)

- Be sure to get the history piece of the assessment. It can open your eyes to many possible causes of the change in behavior.

Physical exam

- Through the history and review of systems (ROS), additional information can be added.
  - HEENT
  - Cardio-respiratory
  - GI
  - GU
  - Neuro

Physical exam (continued)

- HEENT
  - Activity related to the head and neck
    - Increased head banging
      - Presence of pain in the head and/or neck
        - Sinus infection
        - New onset headache
    - Hitting ear; scratching ear
      - Otitis media
  - Check for infections

Physical exam (continued)

- Cardio-respiratory
  - Unusual pacing, increased activity, or agitation
    - Arrhythmias
      - Palpitations
      - Fluttering in the chest
      - Lightheadedness
      - Dizziness
        - Increased adrenergic response (adrenaline leads to more activity and signs or symptoms of agitation)
  - Increased swelling
    - Lower extremity edema, CHF
  - Back pain in the setting of HTN
    - Aortic dissection
    - Aortic aneurysm (effect from accelerated HTN)
  - Check for infections

Physical exam (continued)

- GI
  - guarding, restlessness, pacing, agitation, weight change, BM changes, change in skin color, screaming
- GU
  - agitation, guarding, appetite change, aggression in the bathroom (in general, or specifically with toileting)
- Neuro
  - generalized weakness (objectively or subjectively reported), a change from baseline, weakness (specific or generalized)

VITAL SIGNS

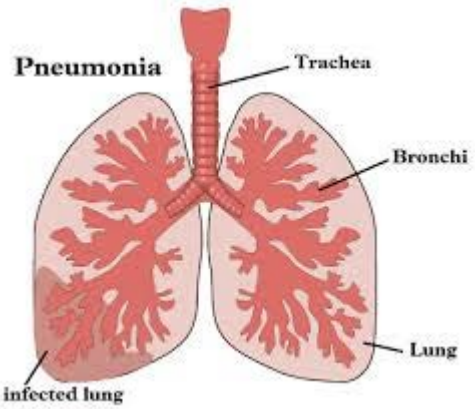
- Vital signs (VS) are VITAL!
- Record and think about each VS individually.
  - Early in the disease process, there may only be one abnormal VS.
    - Abnormal oxygen saturation (less than 95%)
    - Pulse greater than 100
    - Fever is 100.4 (adults)
  - You still want to look at the entire VS scenario, but also look for individual changes that are tip-offs.
  - Global interpretation of VS versus respect to the disease entity itself.
    - Elemental interpretation of VS as being subtle indicators for underlying disease process.

VITAL SIGNS (CONTINUED)

- Record and assess individually.
  - When ordered by the doctor
  - When required before medication administration
  - When a change from baseline is noted and more information is needed

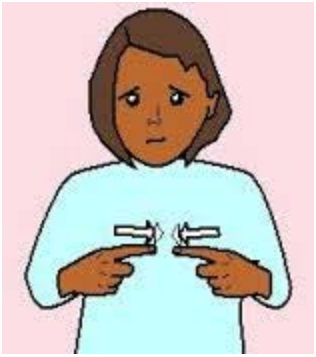
VITAL SIGNS (CONTINUED)

- What are the subtle signs of pneumonia??



PAIN!

- The 5th vital sign!
  - Manifestation
    - Change in activity
    - Change in behavior
    - Guarding
  - Can be from a wide range of causes
    - Infection
      - Renal
      - GI
    - Neurological
      - Hemorrhage
      - Cerebral bleed
      - Tumor
      - Stroke
  - Apply it to the differential diagnosis



PAIN (CONTINUED)

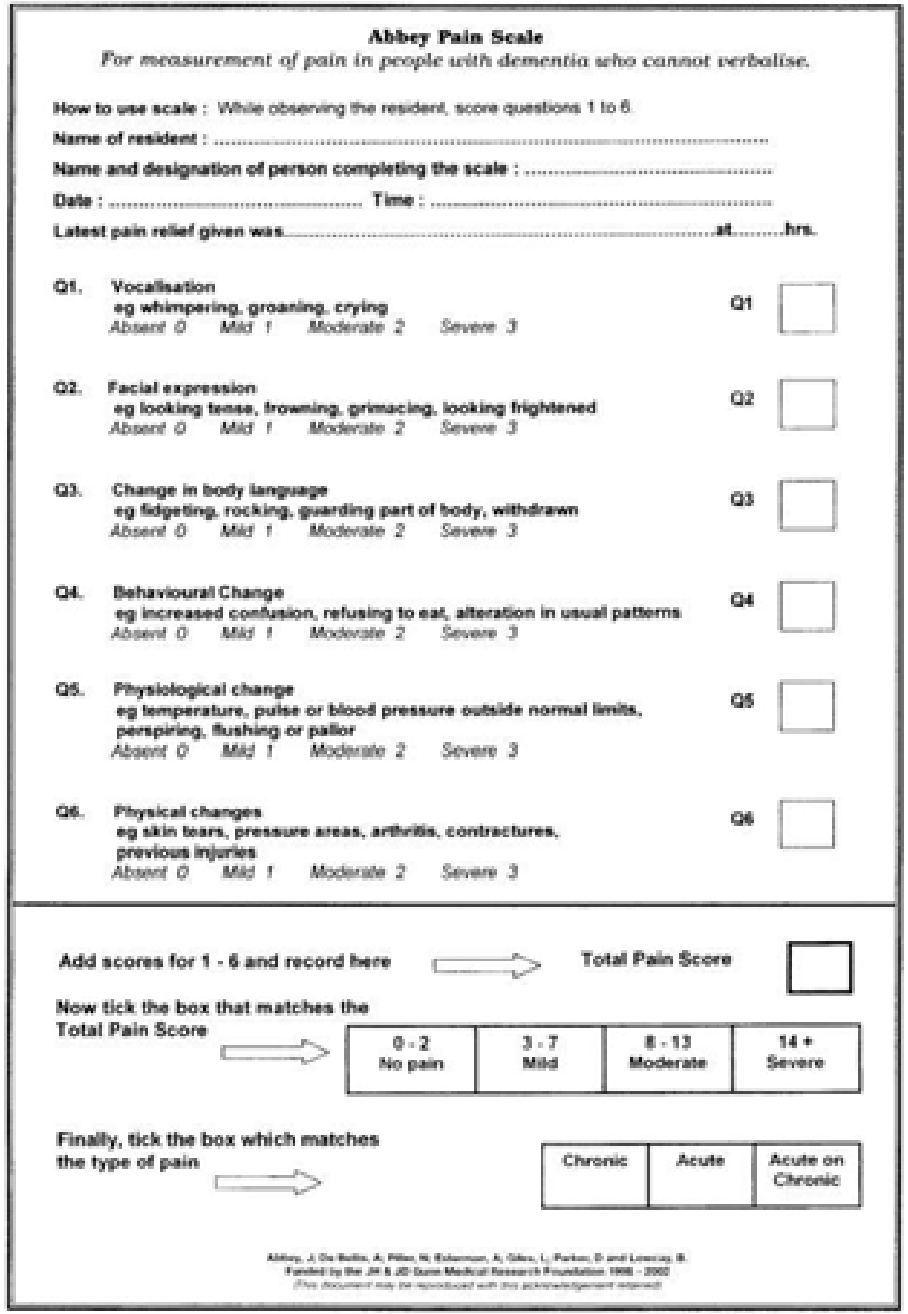
- Pain scales specific to IDD.
  - Familiarize yourself with these
    - Facial Action Coding Scale (FACES)
    - Abbey Pain Scale
    - Pain Assessment in Advanced Dementia Scale (PAINAD)

Facial Action Coding Scale (FACS)

- Page 14 of DDA's Nursing Health and Safety Assessment Form

Abbey Pain Scale

- Page 14 of DDA's Nursing Health and Safety Assessment Form



Abbey Pain Scale

For measurement of pain in people with dementia who cannot verbalise.

How to use scale : While observing the resident, score questions 1 to 6.

Name of resident : .....

Name and designation of person completing the scale : .....

Date : ..... **Time :** .....

Latest pain relief given was .....**at**.....**hrs.**

Q1. Vocalisation
eg whimpering, groaning, crying
Absent 0 Mild 1 Moderate 2 Severe 3
Q1 ☐

Q2. Facial expression
eg looking tense, frowning, grimacing, looking frightened
Absent 0 Mild 1 Moderate 2 Severe 3
Q2 ☐

Q3. Change in body language
eg fidgeting, rocking, guarding part of body, withdrawn
Absent 0 Mild 1 Moderate 2 Severe 3
Q3 ☐

Q4. Behavioural Change
eg increased confusion, refusing to eat, alteration in usual patterns
Absent 0 Mild 1 Moderate 2 Severe 3
Q4 ☐

Q5. Physiological change
eg temperature, pulse or blood pressure outside normal limits, perspiring, flushing or pallor
Absent 0 Mild 1 Moderate 2 Severe 3
Q5 ☐

Q6. Physical changes
eg skin tears, pressure areas, arthritis, contractures, previous injuries
Absent 0 Mild 1 Moderate 2 Severe 3
Q6 ☐

Add scores for 1 - 6 and record here ⇨ **Total Pain Score** ☐

Now tick the box that matches the Total Pain Score ⇨

0 - 2	3 - 7	8 - 13	14 +
No pain	Mild	Moderate	Severe

Finally, tick the box which matches the type of pain ⇨

Chronic	Acute	Acute on Chronic

Abbey, J, De Bellis, A, Piller, N, Esterman, A, Giles, L, Parker, D and Lowcay, B.
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Pain Assessment in Advanced Dementia Scale (PAINAD)

Pain Assessment IN Advanced Dementia PAINAD

	0	1	2	Score
Breathing Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations	
Negative Vocalization	None	Occasional moan or groan. Low level speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying	
Facial expression	Smiling, or inexpressive	Sad. Frightened. Frown	Facial grimacing	
Body Language	Relaxed	Tense. Distressed pacing. Fidgeting	Rigid. Fists clenched, Knees pulled up. Pulling or pushing away. Striking out	
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure	
				TOTAL

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Information from DSPs

- Blood pressure (BP)
- Pulse (P)
- Respirations (R)
- Temperature (T)
- Pulse oximetry (if available)
  - especially for people with underlying respiratory problems including COPD, asthma, OSA, etc.

Information from DSPs (continued)

- DSPs are more than date gatherers; they must be thoughtful in their level of "assessment" and what they gather to present to us

- Continue to elevate them within the context of our jobs as nurses and respect their roles within the healthcare team

Why know the etiology?

- The etiology of the ID/DD may have an impact on the differential diagnosis as manifested by early signs and symptoms.

- Biomedical (neurodevelopmental; onset before adulthood)
  - Environmental causes
    - Prenatal (FAS)
    - Perinatal
    - Postnatal (lead toxicity, heavy metal, acquired brain injury)
  - Genetic causes (study of heredity and the variation of inherited characteristics)
    - Chromosomal abnormality (Trisomy 23)
    - Single gene
    - Microarray abnormality (PW, DiGeorge)
    - Multifactorial and idiopathic (spina bifida, hydrocephaly, and CP)
    - Exome/Geome abnormality

Why know the etiology? (continued)

- Neurodevelopmental disorders
  - commonality or hallmark of neurodevelopmental disorders
    - associated with cerebrogenic disorders or those disorders that affect the brain; co-occurring disorders
      - Intellectual Disabilities---most common.
      - Seizures
      - Sensory Impairment
      - Neuro-motor dysfunction
      - Abnormal behavioral disorder (Autism/Self-injurious)

- Those with ID have a 20-25% chance of having the other disorders.

- Common secondary health consequences
  - Dental
  - Aspiration pneumonia (dysphagia)
  - Decubiti ulcers
  - Constipation
  - Osteoporosis
  - Nutritional deficiencies

- Syndrome-specific conditions involving other aspects of the body
  - Skeletal/connective tissue, metabolic, cardio-respiratory, gastrointestinal

Why know the etiology? (continued)

- May have a direct bearing on the acute assessment and differential diagnosis, and possibly the method of treatment.
  - Down Syndrome

    [dizziness, neck pain, weakness -> axillo-atlas subluxation; impingements (C1, C2); vascular deviations (congenital heart, valvular, and other cardiac concerns); signs and symptoms consistent with dementia]
  - Prader-Willi

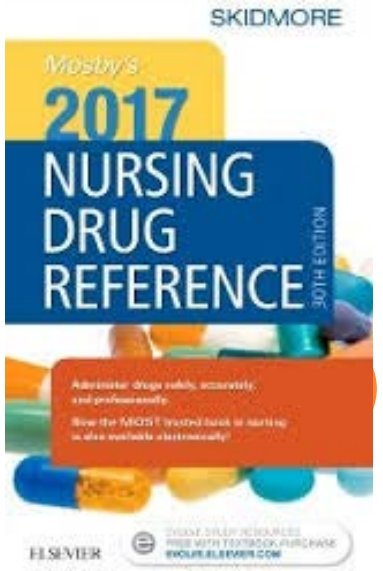
    (obesity, CV disease, MI, pulmonary obstructive disease, obstructive sleep apnea)
  - Cerebral Palsy
    - contractures leading to malnutrition/decubiti, sepsis infection, pneumonia, occult fractures, osteoporosis
  - Williams
    - Associated with cardiovascular abnormalities (aortic stenosis), hypertension, dental problems, alterations in connective tissue, hypercalcemia, and altered behavior
  - Autism – regressive isolating behavior disorder
  - intrauterine infections

What is the leading cause of hospital admissions?

What is the most common medication error leading to ED visits and hospitalizations?

Medication list and diagnoses

- Must be familiar with medication list and correlate with acute problem list.
  - Familiarity with health passport, HCMP
    - RNs: Instruct the LPNs and DSPs of where to look for information on our DDA forms
  - Be mindful of central nervous system effects of certain drugs



Younger patients

- Consider acute changes in physical and/or mental status
  - Could be related to illicit drug utilization
    - Chronic drinking
    - Smoking (leads to many additional health concerns)
    - Drug use
- Consider sexual activity in your assessment
  - A non-emergency condition, but report it (DSPs to LPNs and RNs, and RNs to DRs) and take action

Evidence-based practice guidelines

- Cite specific documents that should be familiar to audience participants.
  - DDNA webpage
    - www.ddna.org
      - Sign in
      - Go to “education”, then “my courses”. Read the information and take the exams to earn CE hours (aspiration, nutrition, desensitization with doctors and dentists, and infection prevention)
      - Go to “education” and “resources” and click to learn more information on a topic of interest.

Comprehensive Resource

- Health Care for People with Intellectual and Developmental Disabilities Across the Lifespan Part I and II – Rubin, Merrick, Greydanus, and Patel; 2016)

Additional resources

- http://www.surreyplace.on.ca/documents/Primary%20Care/Primary%20Care%20of%20Adults%20with%20Developmental%20Disabilities%20Canadian%20Consensus%20Guidelines.pdf
- Canadian consensus guidelines for the primary care of adults with I/DD
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093586/
- AAFP
- Down Syndrome Heath Care Guidelines
  - http://www.ndss.org/Resources/Health-Care/Health-Care-Guidelines/Adult-Health-Care-Guidelines/
- National Down Syndrome Society
  - www.ndss.org
- Dementia Baseline Screening
- DDA Health Initiative https://ucedd.georgetown.edu/DDA/

Additional resources

- Fragile X
  - fragilex.org

- ucp.org.aacpdm.org
- autism-society.org
- spinabifidaassociation.org

- AAIDD
  - aaidd.org

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