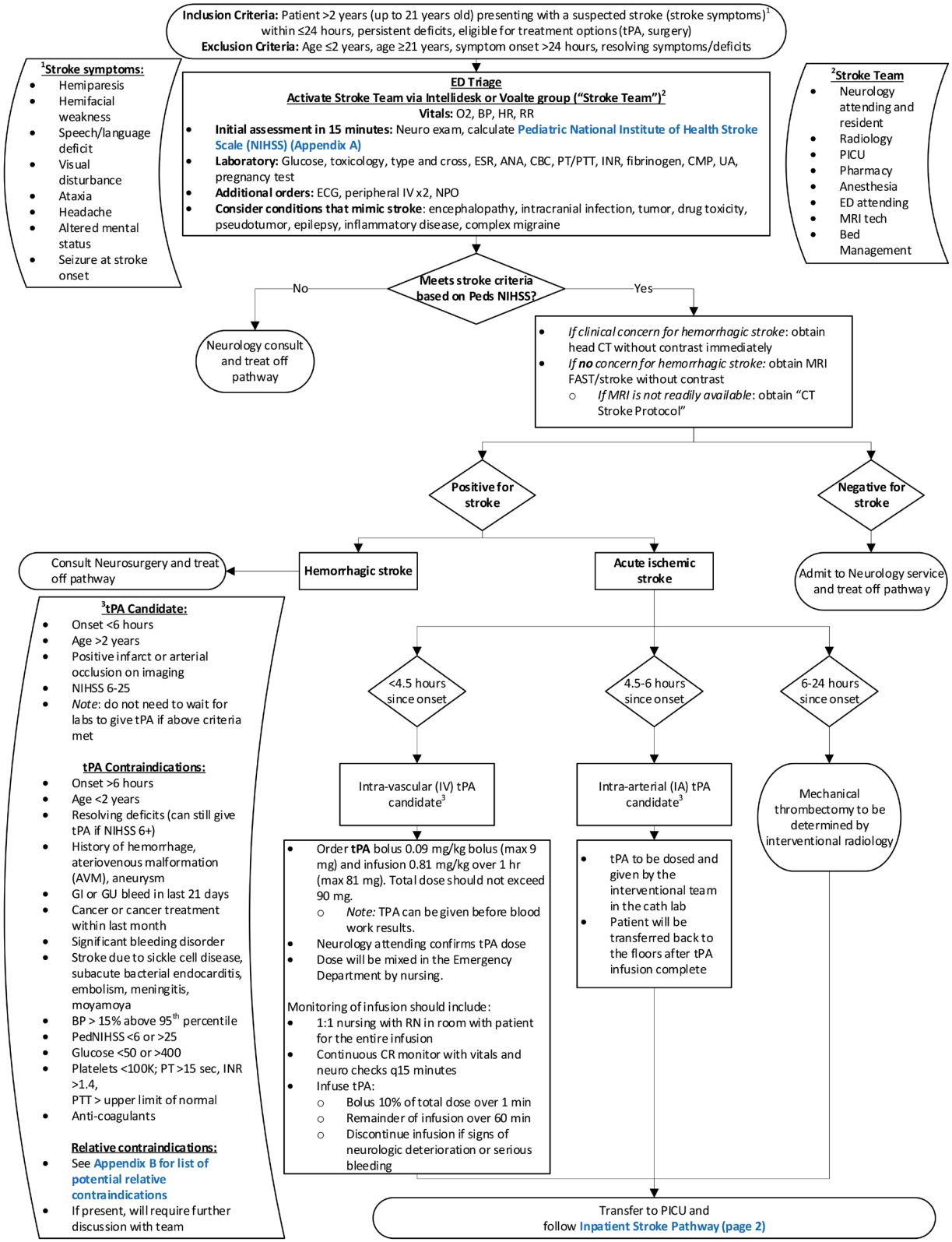
CLINICAL PATHWAY:
Ischemic Stroke Evaluation and Management
Emergency Department Management

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.



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CLINICAL PATHWAY:
Ischemic Stroke Evaluation and Management
Inpatient Management

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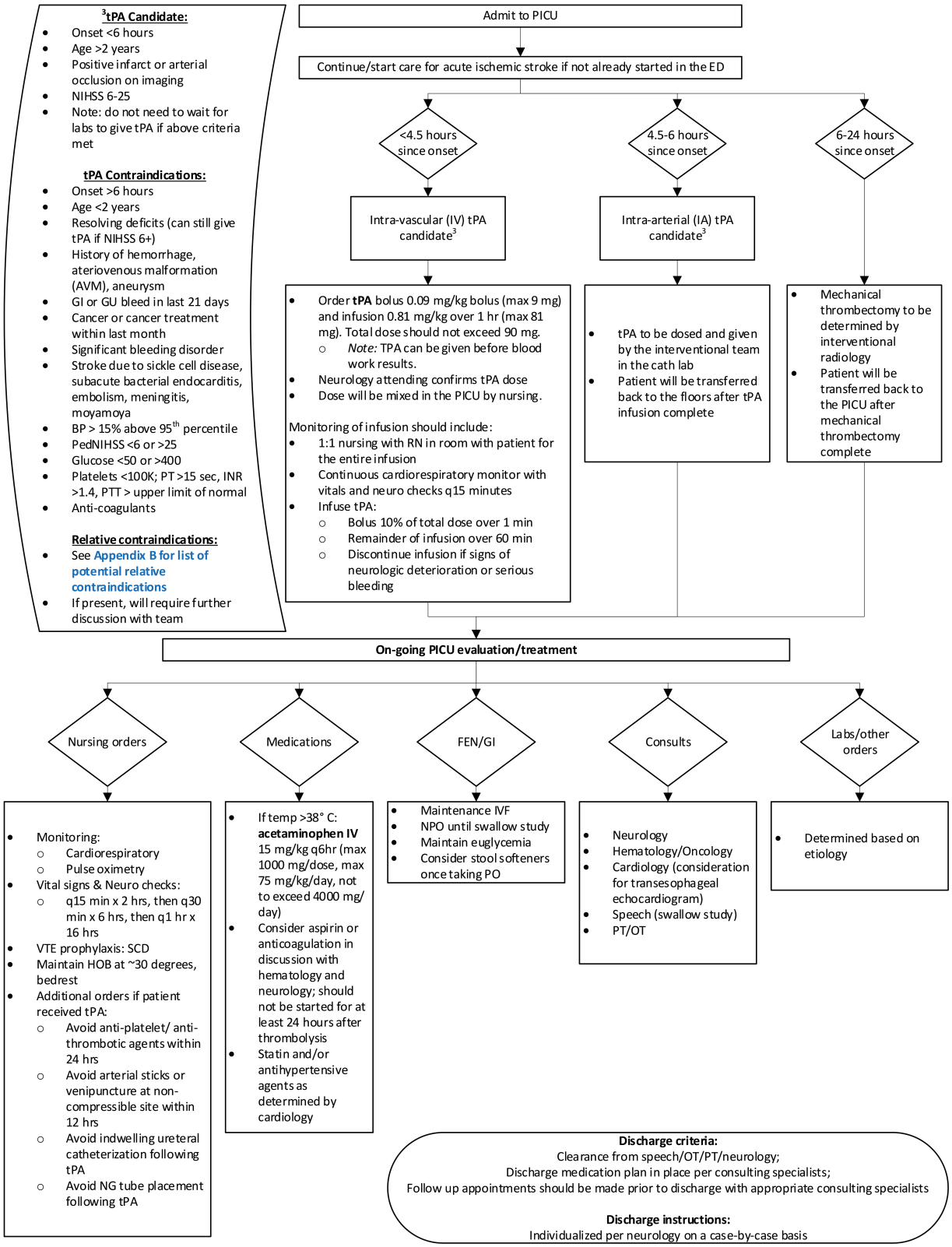

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PedNIHSS

Administer stroke scale items in the order listed. Follow directions provided for each exam item. Scores should reflect what the patient does, not what the clinician thinks the patient can do. **Modifications for children are shown in bold.**

Item # and instructions	Scale Definition and Scoring Guide
1a. Level of Consciousness: A 3 is scored only if the patient makes no movement (other than reflexive posturing) in response to noxious stimuli.	0 = Alert, keenly responsive 1 = Not alert, but arousable by minor stimulation to obey, answer, or respond 2 = Not alert, requires repeated stimulation to attend, or is obtunded and requires strong or painful stimulation to make movements 3 = Responds only with reflexive motor or autonomic effects or totally unresponsive
1b. LOC Questions: The patient is asked the month and his/her age. The answer must be correct. Patients unable to speak because of intubation, oral trauma, or language barrier receive a 1. **Modification for children age 2 and up: Ask the child "How old are you?" Give credit if the child states the correct age or shows correct number of fingers. For the second question as the child, "Where is XX?" XX referring to a family member present in the room. If the patient points at that family member give credit.**	0 = Answers both questions correctly 1 = Answers one question correctly 2 = Answers neither question correctly
1c. LOC Commands: The patient is asked to open and their eyes and then grip the non-paretic hand. **For children may substitute hand grip with "show me your nose" or "touch your nose."** If the patient does not respond to the command, demonstrate the task to them.	0 = Performs both tasks correctly 1 = Performs one task correctly 2 = Performs neither correctly
2. Best Gaze: Only horizontal eye movements are tested. Voluntary or reflexive (oculocephalic) eye movements will be scored.	0 = Normal 1 = Partial gaze palsy. This score is given when gaze is abnormal in one or both eyes, but where forced deviation or total gaze paresis are not present. 2 = Forced deviation, or total gaze paresis not overcome by the oculocephalic maneuver.
3. Visual: Visual fields (upper and lower quadrants) are tested by confrontation using finger counting **(children > 6)** or visual threat **(for children age 2 to 6)**.	0 = No visual loss 1 = Partial hemianopia 2 = Complete hemianopia 3 = Bilateral hemianopia
4. Facial Palsy: Ask the patient to show teeth or raise eyebrows and close eyes. Score symmetry	0 = Normal symmetrical movement 1 = Minor paralysis (flattened nasolabial fold) 2 = Partial paralysis (total or near total paralysis

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of grimace in response to noxious stimuli in unresponsive patient.	of lower face) 3 = Complete paralysis of one or both sides of face
5 & 6. Motor Arm and Leg: The limb is placed in the appropriate position: extend the arm (palm down) 90 degrees (if sitting) or 45 degrees (if supine) and the leg 30 degrees (always test supine). Drift is scored if the arm falls before 10 seconds or the leg before 5 seconds. **For children unable to perform the test, grading should be scored by observation.**	**5a. Left Arm** **5b. Right Arm** 0 = No drift 1 = Drifts down before full time but does not hit bed or support 2 = Some effort against gravity but cannot get to or hold initial position 3 = No effort against gravity, limb falls 4 = No movement 9 = Amputation/joint fusion (explain) **6a. Left Leg** **6b. Right Leg** 0 = No drift 1 = Drifts down before full time but does not hit bed 2 = Some effort against gravity but cannot get to or hold initial position 3 = No effort against gravity, limb falls 4 = No movement 9 = Amputation/joint fusion (explain)
7. Limb Ataxia: Aimed at finding unilateral cerebellar lesion. Test with eyes open. The finger-nose-finger and heel-shin tests are performed on both sides and ataxia is only scored if out of proportion to weakness. **In children, substitute this task with reaching for a toy in the upper extremity and kicking a toy in an examiner's hand.**	0 = Absent 1 = Present in one limb 2 = Present in two limbs
8. Sensory: Sensation or grimace to pin prick when tested or withdrawal from noxious stimuli in the obtunded/aphasic patient.	0 = No sensory loss 1 = Mild to moderate sensory loss: patient feels pinprick is less sharp on the affected side or loss of painful stimuli on affected side. 2 = Severe or total sensory loss. Patient is not aware of being touched.
9. Best Language: For children age > 6 with normal language development: The patient is asked to complete 4 tasks: repeat words from attached sheet, read 3 items words/sentences from attached sheet, name the items on the naming sheet, and describe what is happening in the picture (see figures at end of sheet). For children age 2-6 score items based on observation during the exam.	0 = No aphasia, normal 1 = Mild to moderate aphasia: loss of fluency, reduction of speech and/or comprehension 2 = Severe aphasia: all communication is through fragmentary expression. 3 = Mute, global aphasia

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10. Dysarthria: Based on speech when repeating words or naming objects. Only spontaneous speech can be rated.	0 = Normal 1 = Mild to moderate: patient slurs at least some works and at worst can be understood with some difficulty. 2 = Severe: speech is so slurred it is unintelligible 9 = Intubated or other physical barrier (explain)
11. Extinction and Inattention (formerly Neglect): Sufficient information to identify neglect may be obtained during the prior testing.	0 = No abnormality 1 = Visual, tactile, auditory, spatial, or personal inattention or extinction to bilateral simultaneous stimulation in one of the sensory modalities 2 = Profound hemi-inattention or hemi-inattention to more than one modality. Does not recognize own hand or orients to only one side of space.

Table S1. Language testing items for PedNIHSS:

Repetition	Each of 4 word-repetition tasks is presented: a. Stop b. Stop and go c. If it rains we play inside d. The President lives in Washington
Reading	Each of 3 items is presented for the child to read in Fig 1. Adjust expectations according to child's age/school level
Naming	Pictures are presented and of a clock, pencil, skateboard, shirt, baseball, bicycle (Fig 2).
Fluency and word finding	The picture (Fig 3) is presented and the child is asked to describe what he/she sees.

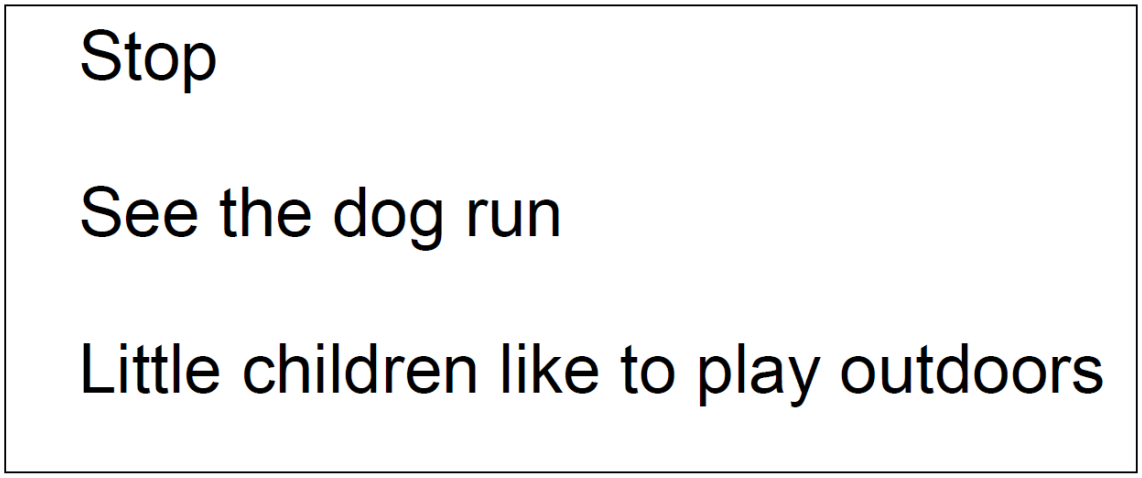

Fig S1. Reading items for PedNIHSS

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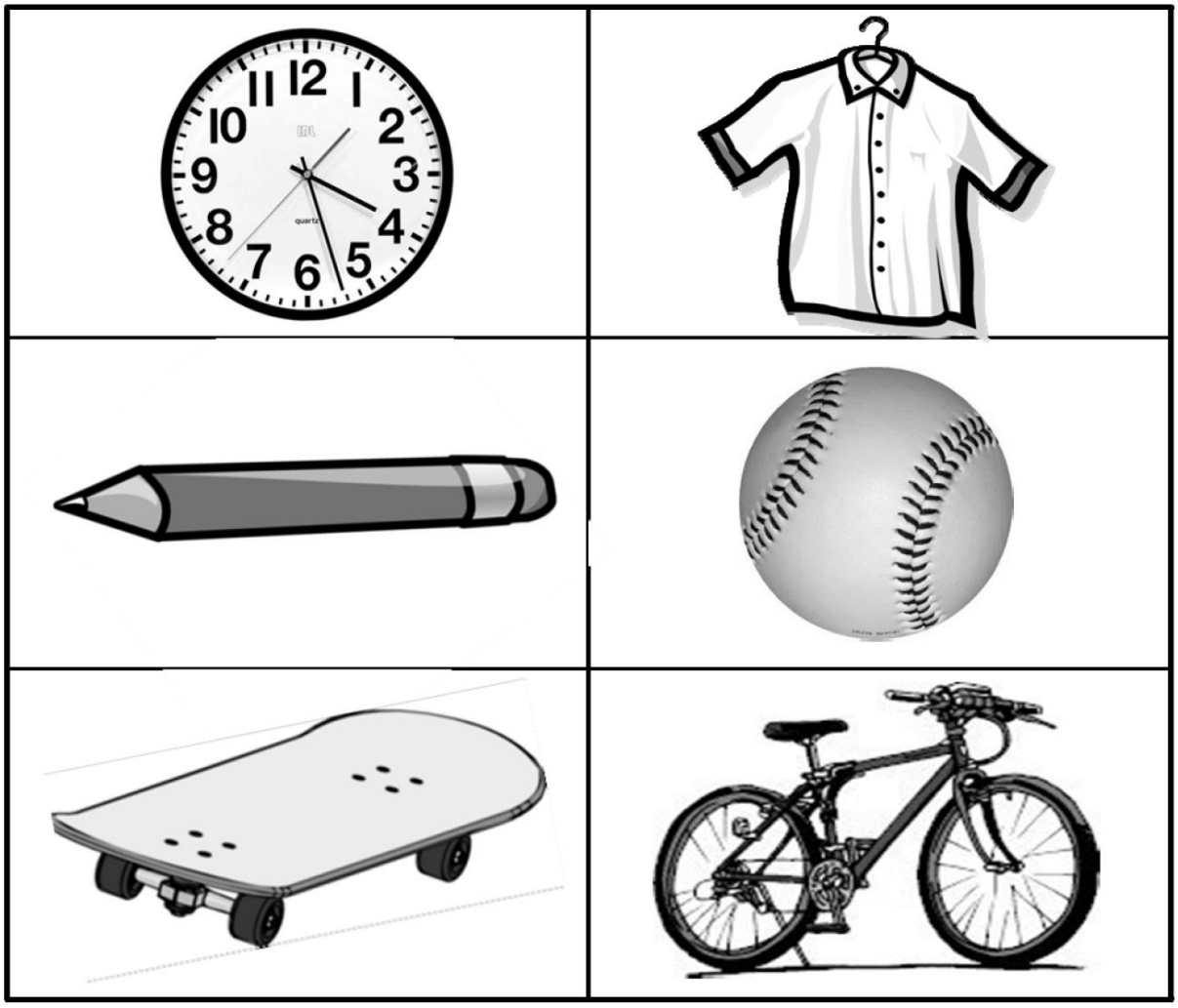

Fig. S2 Pictures to test naming for Item 9 Best Language of PedNIHSS

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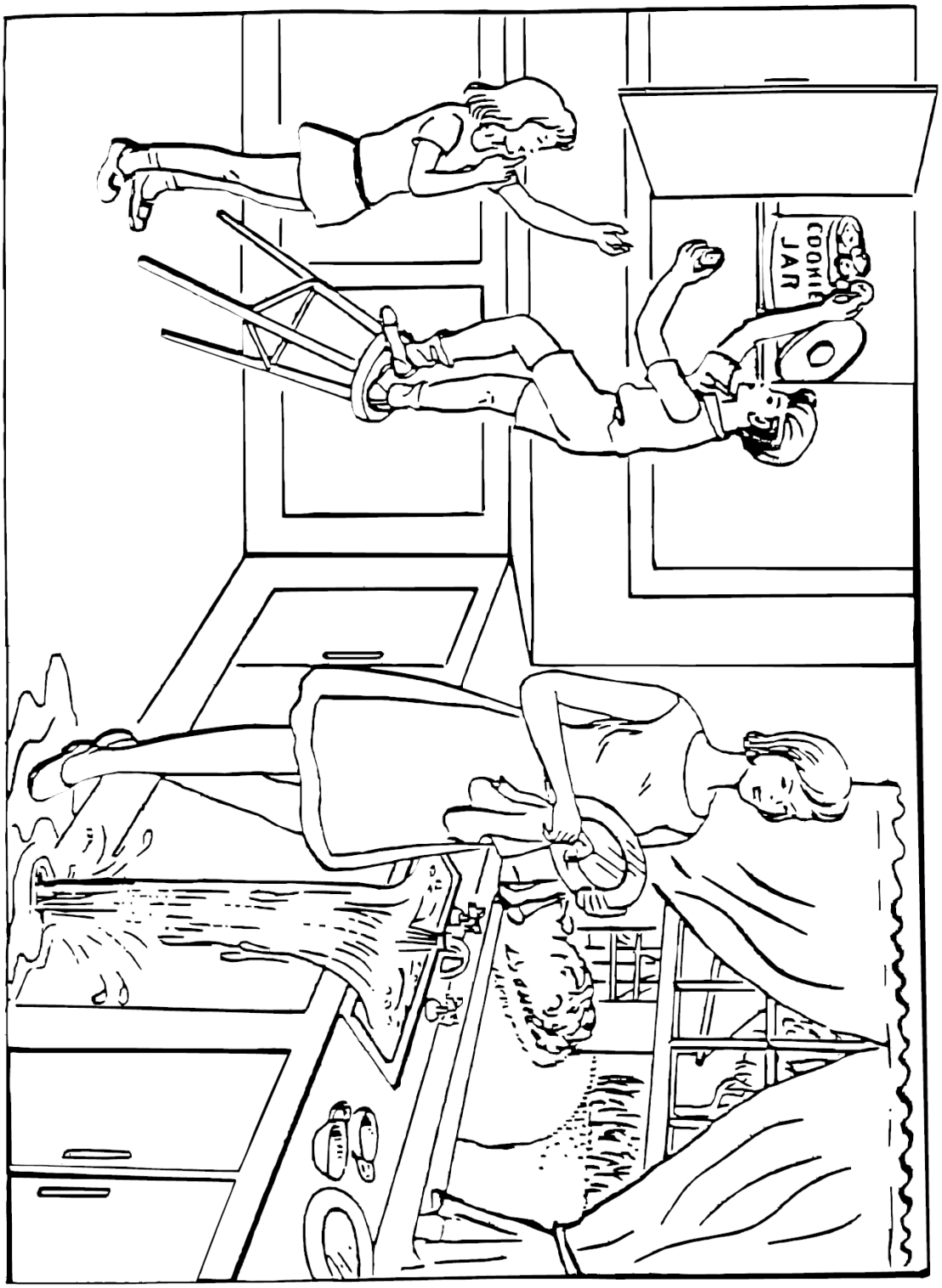

Fig. S3 Picture to test story-telling for Item 9 Best Language of PedNIHSS

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If present, discuss risks and benefits of treatment with team.

- Minor or rapidly improving stroke symptoms
- Major surgery or non-head trauma in past 14 days
- Recent arterial puncture at non-compressible site
- Recent lumbar puncture
- Post myocardial infarction pericarditis
- Pregnancy
- History of prior strokes, diabetes
- Active anticoagulant use
- CT with infarction involving >1/3 of a hemisphere

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