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| **Table e-2. Guide to the Remote Neurological Examination.** | | |
| **System/body area** | **‘Examination elements’ identified as bullet points** | **How you can test this** |
| **Constitutional**  *(1 bullet point)* | * General appearance of patient   (eg, development, nutrition, body habitus, deformities, attention to grooming) | Assess the patient’s general appearance, hygiene and check for any cranial or skeletal malformations. |
| **Cardiovascular**  *(1 bullet point)* | * Examination of peripheral vascular system by observation (eg, swelling, varicosities) and palpation (eg pulses, temperature, edema, tenderness) | Assess perfusion of patient’s hands and feet/ankles for evidence of cyanosis, varicosities, or swelling. Have the patient aim the camera to the feet or ankle and press a finger into the foot or ankle then release, to see if there is evidence of pitting edema. |
| **Musculoskeletal**  *(2 bullet points)* | * Examination of gait and station   \****Tip:*** *ask the patient if there is someone nearby (e.g. a caregiver or family member) who could hold the phone or tablet during the neurological exam.* | *Ask the patient to prop the iPad up against a wall or solid structure:*   1. Walk 10 steps (normal), turn and return to the chair. 2. Walk on heels then toes for a few steps each. 3. Walk in tandem for 10 steps.   ONLY CHECK IF IT SEEMS SAFE! |
| *Assessment of motor function including:*   * Muscle strength in upper and lower extremities | To test for strength, ask the patient to:   1. Ask the patient to hold their arms out in front with eyes closed and palms up. 2. Hold their arms in the wing-beating position (elbows flexed, shoulders abducted with hands palm down in front of the chest. 3. Hold each leg out straight in front of them. 4. Rise from a seated position with the arms crossed. 5. Forearm rolling. 6. Decreased arm swing when walking. 7. Standing on one leg. 8. Proximal upper limb strength: hold arms above the head for a prolonged period of time. |
| **Neurological**:  *(10 bullet points)* | *Evaluation of higher integrative functions including:* | |
| * Orientation to time, place and person | Ask the patient about orientation to time, place, person, fund of knowledge. |
| * Recent and remote memory | Ask the patient about recent and remote memory. |
| * Attention span and concentration | Assess the patient’s attention, language and speech (from observation). |
| * Language   (e.g. naming objects, repeating phrases, spontaneous speech) | Write the sentence “today is a sunny day” on a piece of paper and hold it in front of the camera. |
| * Fund of knowledge | Ask awareness of current events; observe vocabulary |
| *Test the following cranial nerves:* | |
| * 3rd, 4th and 6th cranial nerves   (e.g. pupils, eye movements) | **III, IV, VI:** Ask the patient to keep head still, face the camera and look in all directions of gaze (up/down/left/right). Observe eyes for nystagmus.  You can ask the patient to take a close-up selfie of their pupil and send to you via MyChart, if the detail seen through video was sub-optimal. |
| * 7th cranial nerve   (e.g. facial symmetry, strength) | **VII:** Ask the patent to show teeth, smile, and close eyes tightly. |
| * 8th cranial nerve   (e.g. hearing with whispered voice and/or finger rub) | **VIII:** demonstrate rubbing your index finger and thumb an inch from your ear and then ask the patient to do it and ask if they can they hear the sound. |
| * 11th cranial nerve   (e.g. shoulder shrug strength) | **XI:** Ask the patient to:   1. Move head in all 4 directions: (flexion/extension/L ward and R ward rotation). 2. Shrug shoulders. |
| * 12thcranial nerve   (e.g. tongue protrusion) | **XII:** Ask the patient to stick their tongue straight out, and observe for deviation to one side. Ask them to move the protruded tongue to the left and to the right. |
| *Coordination* | |
| * *Test coordination*   (e.g. finger/nose, heel/knee/shin, rapid alternating movements in the upper and lower extremities, evaluation of fine motor coordination in young children) | Ask the patient to prop up phone so their body is visible, then:   1. Tap the thumb and first finger. 2. Pat the palm of the hand on the lap or table, then flip over and pat the back of the hand on the lap or table. 3. Perform heel to shin testing. 4. Make a pointer with each hand and touch their nose, then reach out toward the camera, and repeat for 3-4 cycles. 5. Perform heel to shin movements in each leg. 6. With eyes closed, touch their finger to their nose. 7. Opening and closing hands 8. Ask patient to flick wrists as if shaking water off hands – may give indication of increased tone |
| *Examination of sensation*  (*this is not included in the exam template as it requires the help of someone with the patient*): | |
| * *Sensory exam:* | 1. You may ask the differences between left and right and/or proximal versus distal 2. Ask the patient to draw a line around the area that is numb for a general distribution 3. If there is a skilled examiner and the distance site (e.g. a spoke hospital) you may ask them to assess different dermatomes |