REV 04/10 replaces 11/96
MACS NEUROPSYCHOLOGICAL STUDY PHASE 2
NEUROLOGICAL ASSESSMENT

1	0	Form		Center

MACS STUDY ID # |__| |__| |__| |__| |__|
MACS VISIT # |__| | _| |__|
NP PHASE 2 VISIT |__| |__|
EXAM DATE __ __ /__ __ /__ __
M M D D Y Y

REASON FOR REFERRAL |__|
(1 - standard routine; 2 - control; 3 - "clinical indications"; 4 - other)

Examiner use only (not for coding)
Age |__|__|
Handedness |__|
Comments/Actions _____
_____
_____

Q1. **LIFETIME NEUROLOGICAL DISEASE:** (1 = no; 2 = yes; 9 = unknown/missing)

a. Esclerosis múltiple |__|
b. Golpe en la cabeza (Pérdida del conocimiento >1hora) |__|
c. Embolia |__|
d. Ataques |__|
e. Daño a nervios periferales |__|
f. Otro |__|
g. Discos herniados |__|

(Receta previa, evaluación, médico que recommendó tratamiento) _____
_____
_____

Q2. **LIFETIME SYSTEMIC DISEASE:** (1 = no; 2 = yes; 9 = unknown/missing)

a. Diabetes mellitus |__|
b. Desorden de los tejidos conectivos Artitis reumatoide o lupus |__|
c. Expuesto a metales pesados |__|
d. Hipertensión |__|
e. Ingirió alcohol en exceso hace más de 6 meses |__|
f. Otras condiciones crónicas |__|
g. Inigirió alcohor en exceso en los últimos 6 meses |__|

(Receta previa, evaluación, médico que recommendó tratamiento) _____
_____
_____

Q3. **ALCOHOL USE, LAST 24 HOURS:** |__|
(Una bebida equivale a: 1 cerveza de oz., ó 1 vaso de vino de 1-4 oz., ó 1 oz de licor fuerte)
(1 = none; 2 = 1 drink; 3 = 2-3 drinks; 4 = 4-6 drinks; 5 = ≥ 7 drinks; 9 = unknown/missing)

Comment: _____

Q4. **NON PRESCRIPTION DRUG USE, LAST 24 HOURS** |__|
(1 = ninguna; 2 = marihuana; 3 = cocaína; 4 = derivados del opio; 5 = estimulantes/tranquilizantes; 6 = polysubstance; 7 = otras drogas; 9 = desconocidas/falta información)

Comment: _____

Q5. **WORK STATUS** (Especifique su horario de trabajo o estudios en los últimos 6 meses.) |__|
(1 = estable; 2 = cambio en el horario por razones de salud; 3 = cambio en el horario por otras razones;
4 = cambio en el horario de trabajo de más de 6 meses por razones de salud; 9 = desconocido/falta información)

Type of work: _____
_____
_____

INSTRUCTIONS: The next set of Questions Q6-22 are hierarchical, i.e., within each question there are different sub-questions, representing increasing levels of symptomatology. The questions are designed to be asked by the Neurological Examiner, but can be asked by a separate interviewer (e.g. LA). If so, indicate separate examiner code on Page 5. Start each question with the conversational instruction using the written phrase exactly (BOXED), then ask the first sub-question (numbered as 2).
If NO: stop at that part, score as 1 (normal) and skip to next question.
If YES: continue asking successive sub-questions, ie, 3,4,5, until NO is response, score the number corresponding to highest YES, and go to next question.
Example: Question 6 in the Cognitive Function Section:

1. Start with introduction - "I'M GOING TO ASK YOU ABOUT.."
2. Ask first level of question - Do you have occasional difficulty with concentration?
3. If NO, score Q6 as 1 (normal), skip to Question Q7.
4. If YES, move to next sub-question - DO you frequently lose your concentration?

Remember: You are trying to elicit CHANGES during the past 6 months.

Q6. **CONCENTRATION SPEED OF THOUGHT**

LE VOY A PREGUNTAR SI EN LOS ÚLTIMOS 6 MESES HA TENIDO PROBLEMAS PARA CONCENTRARSE O PARA PENSAR EN GENERAL.

2 - ¿En ocasiones tiene dificultad para concentrarse? |___|
3 - ¿Pierde el hilo de una conversación con frecuencia? ¿Necesita ayuda con algunas tareas, tales como cuadrar su chequera?
4 - ¿Se le hace muy difícil sostener una conversación normal? (**Examiner: score this 4 if unable to answer.**)
Comments: _____

Q7. **READING OR TV**

LE VOY A PREGUNTAR SI EN LOS ÚLTIMOS 6 MESES HA TENIDO DIFICULTADES LEYENDO O ENTENDIENDO UN PROGRAMA TELEVISADO.

2 - ¿Le da trabajo entender los programas televisados? ¿En ocasiones se le pierde la vista en la página cuando lee? |___|
3 - ¿Ha dejado de hacer estas actividades porque se le hace difícil entender?
4 - ¿Se le hace muy difícil ver un programa de television completo o leer si no entiende lo que sucede?
Comments: _____

Q8. **MEMORY**

LE HARÉ UNAS PREGUNTAS EN CUANTO A CAMBIOS EN SU MEMORIA EN LOS ÚLTIMOS 6 MESES.

2 - ¿Tiene problemas para recordar sus compromisos o el lugar donde coloca sus cosas? |___|
3 - ¿Se le olvidan frecuentemente sus citas o lo que tiene que hacer en medio de una tarea?
4 - ¿Se confunde mucho del dia, la hora y el lugar donde se encuentra?
(**Examiner: score this 4 if participant is disoriented.**)
Comments: _____

Q9. **SPEECH**

LE VOY A PREGUNTAR SI RECIENTEMENTE HA TENIDO DIFICULTADES AL HABLAR EN LOS ÚLTIMOS 6 MESES.

2 - ¿En ocasiones a tenido que escoger con mucho cuidado las palabras correctas? |___|
3 - ¿Tiene dificultad para encontrar las palabras que quiere decir?
4 - ¿Se le hace muy difícil decir más que solo algunas palabras y/o frases breves?
(**Examiner: score this 4 if participant is mute**.)
Comments: _____

Q10. **MOOD**

LE VOY A PREGUNTAR SI HA CAMBIADO SU ÁNIMO EN LOS ÚLTIMOS 6 MESES.

2 - ¿Se ha sentido deprimido últimamente? |___|
3 - ¿Ha interferido esta depression con su funcionamiento en el hogar o el trabajo?
4 - ¿Ha necesitado medicamentos u hospitalización?
Comments: _____

Instructions: see page 2; (1 = normal, 9 = unknown/missing)

Q13. **GAIT**

LE PREGUNTARÉ SOBRE LAS DIFICULTADES QUE PUEDE HABER TENIDO AL CAMINAR EN LOS ÚLTIMOS 6 MESES.

2 - ¿Se siente débil, inestable, o lento cuando camina? |__|
3 - ¿Necesita un bastón porque está débil o inseguro de sus pasos?
4 - ¿Necesita caminar con un andador porque está débil o tambaleante?
5 - ¿No puede caminar aún con apoyos?
Comments: _____

Q14. **COORDINATION**

LE PREGUNTARÉ EN CUANTO A SUS DESTREZAS MANUALES EN LOS ÚLTIMOS 6 MESES.

2 - Aunque sea más lento o con menos destreza, ¿puede hacer sus actividades diarias (ej. comer, abotonarse las camisas)? |__|
3 - ¿Tiene mucha dificultad al hacer sus actividades diarias porque tiene las manos torpes?
4 - ¿Necesita ayuda con sus actividades diarias porque ha perdido la destreza de sus manos?
Comments: _____

Q15. **INVOLUNTARY MOVEMENT**

LE HARÉ UNAS PREGUNTAS EN CUANTO A MOVIMIENTOS INVOLUNTARIOS, COMO LO SON TEMBLAR, SACUDIDAS RÁPIDAS O ESPASMOS EN LOS ÚLTIMOS 6 MESES.

2 - ¿Le han surgido temblores en sus extremidades, cabeza o el cuerpo? |__|
3 - ¿Interfieren estos movimientos con sus actividades diarias (ej. escribir)?
4 - ¿Son tan severos que no le permiten hacer sus actividades diairas?
Comments: _____

Q17. **SYNCOPE/ SEIZURES**

LE HARÉ PREGUNTAS EN CUANTO A DESMAYOS, ATAQUES O CONVULSIONES RECIENTES EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha tenido desmayos (sin ataques)? |__|
3 - ¿Ha tenido ataques o convulsiones?
Comments: (description and frequency) _____

Q18. **PARESTHESIAS/ DYSESTHESIAS**

LE PREGUNTARÉ SI HA TENIDO DIFERENTES SENSACIONES EN SUS BRAZOS Y PIERNAS EN LOS ÚLTIMOS 6 MESES.

2 - ¿Se ha sentido con comezón y/o quemazón intermitentes? |__|
3 - ¿Es ésto contínuo pero no interfiere con sus actividades diarias?
4 - ¿Son estas sensaciones tan incómodas que limitan sus actividades diarias?
Comments: (distribution/description) _____

Q19. **LOSS OF SENSATION**

LE HARÉ PREGUNTAS EN CUANTO AL ADORMECIMIENTO O PÉRDIDA DE SENSACIÓN EN SUS BRAZOS Y PIERNAS EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha perdido la sensación de sus extremidades de forma intermitente o fugaz? |__|
3 - Aunque ha notado que ésto sucede contínuamente, ¿no le limita en sus actividades diarias?
4 - ¿Ha sido ésto tan severo como para limitarle en sus actividades diarias?
Comments: (distribution) _____

Instructions: see page 2; (1 = normal; 2 = unknown/missing)

Q20. **MUSCLE WEAKNESS**

LE VOY A PREGUNTAR SOBRE ALGUNA DEBILIDAD RECIENTE EN SUS BRAZOS O PIERNAS EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha sentido este tipo de debilidad de manera intermitente o fugaz? |__|
3 - ¿Ha sido contínua pero no tan severa como para limitar sus actividades diarias?
4 - ¿Ha sido tan severa que le limita hacer sus actividades diarias?
Comments: (distribution)

Q20a. **MYALGIAS**

LE VOY A PREGUNTAR SOBRE DOLORES MUSCULARES RECIENTES EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha tenido dolores musculares de manera intermitente o fugaz? |__|
3 - ¿Ha tenido dolores frecuentes o constantes para los cuales ha necesitado medicamentos?
4 - ¿Le ha limitado este dolor muscular severo en sus actividades diarias?
Comments: (distribution)

Q21. **VISUAL**

LE VOY A PREGUNTAR SOBRE PROBLEMAS DE LA VISTA QUE PUEDE HABER TENIDO EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha notado algún cambio en su visión que persista |__|
más de unos minutos (Puede ser visión borrosa o doble)?
3 - ¿Ha empeorado esta condición al punto que limita sus actividades diarias?
Comments: (ophthalmologist)

Q22. **HEADACHE**

LE VOY A PREGUNTAR SOBRE DOLORES DE CABEZA INUSUALES QUE PUEDE HABER TENIDO EN LOS ÚLTIMOS 6 MESES.

2 - ¿Ha desarrollado más dolores de cabeza fuertes de los que acostumbraba tener? |__|
3 - ¿Ha sido alguno de estos dolores tan fuerte que ha tenido que dejar de trabajar?
Comments: (record if any nausea, vomiting, or neck stiffness)

Q23. **PHYSICIAN VISIT** |__|

HA CONSULTADO ALGUNO DE LOS SÍNTOMAS MENCIONADOS CON UN MÉDICO (Q6-22)? (Record 1 for NO, 2 for YES and indicate below which symptoms)
Comments: (Physician, address, date, symptom, action) _____
_____
_____

Q23a. **EXAMINER CODE** (separate code ONLY if symptoms completed by examiner other than neurological examiner) |__|__|__|

Q23b. **NEUROLOGICAL SYMPTOMS SUMMARY** |__|

Instructions: 1 = Does not meet criteria for remaining in Phase 2. If any 3 questions (Q6-Q22) have scores ≥ 3, code 2 and keep participant in Phase 2.

The neurological examination should be performed by someone with neurological training. Follow the format below and note instructions for testing. When scoring, if an abnormality is present, but you can't be sure if its new or old, record as NEW (ie 3) and write in comment section. An "old" abnormality is something that the patient knows has been present since birth, for several years, or is clearly related to trauma or surgery. If you're unsure whether the examination is abnormal, record as 2.

Q24. **RESPONSE TO COMMANDS** |___|

1 - normal; 2 - mild slowing; 3 - moderate slowing; 4 - severe psychomotor retardation; 5 - agitated or anxious; 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing
Comments:

MENTAL STATUS

Q25. **STEP COMMANDS** |___|

1 - normal; 2 - needs instructions repeated but performs correctly; 3 - one or more errors; 4 - cannot perform; 8 - neurologic abnormality is old, eg, right-left confusion since childhood; 9 - unknown/missing
Comments: _____

COMMAND: "Con su pulgar izquierdo, toque la punta de su nariz, su mentón y su oreja derecha." LUEGO, "Con su dedo índice derecho, toque su mejilla derecha, su frente y su hombro izquierdo." LUEGO, "Con su pulgar derecho, toque su oreja izquierda, su mentón y su hombro derecho."

Q25a. **REGISTRATION** |___|

Nombre 3 objetos: "naranja, potro, peseta." Luego, pídale al participante que repita las tres palabras despues de usted decirlas (1 - 3 points, score 1 for each correct).

Q25b. **TIME** |___|

Año, época, fecha, dia, mes (1 - 5 points; score 1 for each correct)

Q25c. **PLACE** |___|

Estado, condado o barrio, pueblo, hospital, piso (1 - 5 points; score 1 for each correct)

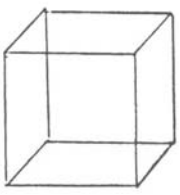
Q25d. **ATTENTION AND CONCENTRATION** |___|

Deletree "mundo", "calcio", "negro", o "fideo" al revés (1-5 points; score number of letters correct before first error.

Q25e. **RECALL** |___|

Ask for recall of the 3 objects repeated above (Q25a). (1 - 3 points; score 1 for each correct) Allow 3 minutes between registration and recall.

Q25f. **COPY A DESIGN** (score 1 point if accurate) |___|



Q25g. **TOTAL SCORE OF MENTAL STATUS** (Sum 25a-25f; maximum = 22) |___||___|

Q26. **FUNDUS** |__|

1 - normal; 2 - cotton-wools spots; 3 - hemorrhage; 4 - papilledema; 5 - other or mixed; 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing
Comments:

Q27. **PUPILS** Assess size, shape, symmetry, and speed of response |__|

1 - normal; 2 - slightly sluggish; 3 - abnormal, eg. dilated, AR pupils, light-near dissociation;
8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing
Comments: _____

Q28. **OCULAR MOTILITY** Smooth pursuit: test with slow moving target, > 15" from face. |__|

1 - normal; 2 - frequent corrections; 3 - cannot pursue or has sustained nystagmus; 8 - neurologic abnormality is old, eg, congenital nystagmus or drug effects; 9 - unknown/missing
Comments: _____

Q29. **SACCADES** Test eye movement from primary position to target in all fields of gaze. |__|

1 - normal; 2 - mildly abnormal, eg. slightly slowed; 3 - dysmetric, dysconjugate, or paretic; 8 - neurologic abnormality is old, congenital, post-traumatic, or drug effects; 9 - unknown/missing
Comments: _____

Q30. **FACIAL STRENGTH** |__|

1 - normal; 2 - mild asymmetry or equivocal weakness; 3 - definite paresis/palsy;
8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing

Comments: (pattern/side) _____

Q31. **FACIAL EXPRESSION** |__|

1 - normal; 2 - slightly decreased blink rate and hypomotility; 3 - mask-like; 8 -neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/ missing
Comments: _____

Q32. **OTHER CRANIAL NERVES** |__|

Assess speech patterns, tongue movements, palate movement, hearing.

1 normal; 2 - mild abnormality, eg. slight slurring or facial numbness; 3 - moderate/severe abnormality, eg. severe dysarthria or absent corneal reflex; 8 - neurologic abnormality is old, congenital, or post-traumatic, eg lifelong speech difficulty or deafness; 9 - unknown/missing
Comments: _____

MOTOR

Test following muscles: hand intrinsics, finger grip, wrist extensors, triceps, deltoids, foot intrinsics, toe extensors, ankle dorsiflexors, hip flexors and extensors: NOTE SCORING SYSTEM IS REVERSE OF MRC GRADE.

Q33. **STRENGTH**

1 - normal; 2 - mild, vs resistance (MRC grade 4/5) or pronator drift only; 3 - moderate, vs gravity (MRC grade 3/5); 4 - severe, (MRC grade <2/5); 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/ missing

	RU	RL	LU	LL
Proximal	a.	b.	c.	d.
Distal	e.	f.	g.	h.

Comments: (pattern/distribution)

Q34. **TONE**

Assess tone in arms and legs with patient relaxed.

1 - normal; 2 - mild hypertonia, eg. slight resistance to passive movement; 3 - moderate/severe hypertonia, eg. definite spastic catch or lead-pipe rigidity; 4 - hypotonia; 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing

RU	RL	LU	LL
a.	b.	c.	d.

Comments: (pattern/distribution): _____

34a. **TREMOR** |__|

1 - no tremor; 2 - fine, fast "physiologic tremor;" 3 - severe, function-limiting tremor;
9 - unknown/missing

Comments: _____

Q35. **BULK** |__|

1 normal; 2 - diffuse wasting; 3 - focal atrophy; 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing

Comments: _____

Q36. **COORDINATION AND RAM – LIMB** |__|

Use finger-nose, heel-knee-shin, bicycling with legs, hand tap, finger-thumb, hand flip. Distinguish slowing (extrapyramidal) from inaccuracy or dysmetria (cerebellar).

1 normal; 2 - mild slowness/clumsiness - compared to examiner; 3 - moderate slowness/clumsiness - notably slow and/or dysmetric; 4 - severe, unable to perform; 5 - slowing alone with normal accuracy; 6 - weakness precludes testing; 8 - neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing

Comments: _____

Q37. **COORDINATION GAIT** |__|

Use tandem, rapid walk with turns. Try knee bend or chair-rising to assess proximal weakness; heel-rocking for TIB ANT weakness.

1 normal; 2 - gait disturbance, evident only on rapid turns or tandem; 3 - clear difficulty with walking; 4 - severe gait disturbance, requires assistance to walk; 5 -non-ambulatory; 8 – neurologic abnormality is old, congenital, or post-traumatic; 9 - unknown/missing
Comments: _____

Q38. **TIMED GAIT**

Subject walks a 10 yd distance, turns and returns. Instruct: "Camine tan rápido como pueda."
Repeat for 2 additional trials. Score is average of 3 trials in seconds. Round up/down to nearest integer. Score 000- cannot perform; 999 - unknown/missing.

Trial 1			.
Trial 2			.
Trial 3			.
Average (secs)			.

Q39. **REFLEX GRADING**

NOTE CHANGE IN SCORING

0 - absent; 1 - hypoactive; 2 normal DTR's; 3 - hyperactive DTR's, eg with prominent spread;
4 - clonus; 9 - unknown/missing

	biceps	triceps	knee	ankle
Right	a.	b.	c.	d.
Left	e.	f.	g.	h.

Q40. **RELEASE REFLEXES**

NOTE CHANGE IN SCORING.

0 - absent/normal; 2 - present/abnormal; 9 - unknown/missing

	Plantars	Grasp	Snout	Jaw
Right	a.	c.	e.	f.
Left	b.	d.		

Test SNOUT by tapping with reflex hammer on upper lid with eyes lightly closed - look for pouting of lips.
Test JAW by tapping down on jaw with mouth held open and relaxed - look for contraction of masseters.

Q41. **SENSATION**

A. **VIBRATION**

Use tuning fork applied to big toe joint and compare duration of reported "buzzing" compared to examiner's finger under toe. If abnormal, test proprioception/sensory level, Tinel's, Rombergs.

1 - normal; 2 - mild loss, eg. vibration stops < 10 seconds before examiner; 5 - vibration stops > 10 seconds before examiner; 3 - cannot feel vibration in toes; 4 - severe, cannot feel vibration in toes and ankles; 9 - unknown/missing |__|

Comments: _____

B. **PIN SENSATION**

Test using broken cotton wool swabstick. Compared sharp end to dull end and hands to feet.

1 - normal; 2 - mild distal loss or hemisensory difference; 3 - hyperalgesia distally, ie, patient reports that stick is more painful in feet than shins; 4 - definite distal gradient, "stocking glove" pattern, or sensory level; 5 - mixed/combination; 9 - unknown/missing |__|
Comments: _____

. **STEREOGNOSIS**

Use 2 test objects in each hand with eyes closed: eg: coin, key, paper clip.

1 - normal, recognizes both objects; 2 - recognizes 1 object; 3 - recognizes neither object;
9 - unknown |__|

Comments: _____

NEUROLOGIC SUMMARY

Summary should be coded for highest level of impairment. If unsure whether a definite examination abnormality is new or old/congenital/post-traumatic, code as 3. If unsure which system is abnormal, eg whether LE hyperreflexia is "spinal cord" or "CNS diffuse," mark each system.

Q42. **PERIPHERAL NERVES** |__|

1 - normal; 2 - equivocal/mild abnormalities, e.g. a) mild vibration loss and diminished AJ or b) mild vibration and other mild sensory modality; 3 - abnormal, definite peripheral neuropathy with absent AJ or moderate/severe vibration loss; 8 - abnormal, unrelated or old, e.g. longstanding sensory deficit s/p disc; 9 - unknown/missing
Comments: _____

Q43. **CNS DIFFUSE** |__|

1 - normal; 2 - equivocal/mild abnormalities, e.g. diffuse hyperreflexia OR slight slowing of RAM's OR release signs; 3 - definitely abnormal, e.g. a) increased tone UE's and LE's AND hyperreflexia; OR b) slowed RAM's AND hyperreflexia; 8 - abnormal, unrelated or old, e.g. drug effects, s/p trauma; 9 - unknown/missing

Comments: _____

Q43a. Use this item for participants in whom you suspect **HIV-RELATED DEMENTIA** based on diffuse CNS signs (Q43) and/or cognitive complaints (Q6-9). Use coding from next page to grade the dementia. Grade myelopathy separately. If CNS impairment is clearly unrelated to HIV, eg post-traumatic, code as 8; 9 = unknown/missing. If only abnormalities are peripheral nerve, spinal, or muscle, code Q43a as 0.
|__|.|__|

Q44. **CNS FOCAL** |__|

1 - normal; 2 - equivocal/mild abnormalities, e.g. a) mild focal weakness or hyperreflexia or pronator drift OR eg b); isolated brainstem, eye movement, or pupillary abnormalities; 3 - abnormal, e.g. hemiparesis, cerebellar ataxia, aphasia; 8 - abnormal, unrelated or old, e.g. previous trauma/surgery/CVA; 9 - unknown/missing

Comments: _____

Q45. **SPINAL CORD** |__|

1 - normal; 2 - equivocal/mild abnormalities, e.g. slightly increased tone in LE or LE hyperreflexia, but UE's normal; 3 - abnormal, e.g. spastic paraparesis with increased LE tone, reflexes and weakness or sensory level; 8 - abnormal, unrelated or old, e.g. previous trauma, s/p disc; 9 - unknown/missing
Comments: _____

Q45a. Use this item for participants in whom you suspect **HIV-RELATED MYELOPATHY** based on diffuse spinal cord signs (Q45). If myelopathy is clearly unrelated to HIV, eg post-traumatic, code as 8; 9 = unknown/missing. Use coding from next page to grade the myelopathy. Grade dementia separately.
|__|

Q46. **MUSCLE** |__|

1 - normal; 2 - equivocal/mild abnormalities, e.g. slight proximal weakness or diffuse wasting; 3 - abnormal, e.g. proximal myopathy; 8 - abnormal, unrelated or old; 9 - unknown/missing
Comments: _____

CODING FOR Q43A, DEMENTIA SEVERITY.

Stage 0 (normal): Normal mental and motor function. Neurological signs are within the normal age-appropriate spectrum.

Stage 0.5 (equivocal or subclinical):Absent, minimal or equivocal symptoms without impairment of work or capacity to perform activities of daily living (ADL). Exam may be normal or mildly abnormal signs may include reflex changes (eg, generalized increase in deep tendon reflexes with active jaw jerk, snout or glabellar sign) or mildly slowed ocular movements, but without clear slowing of extremity movements or loss of their dexterity or strength.

Stage 1 (mild): Able to perform all but the more demanding aspects of work or ADL but with unequivocal evidence (symptoms or signs including performance on neuropsychological testing) of intellectual or motor impairment. The abnormal motor signs usually include slow or clumsy movements of extremities.

Stage 2 (moderate): Able to perform basic activities of self care at home but cannot work or maintain more demanding aspects of daily life (eg, maintain finances, read text more complex than a tabloid newspaper).

Stage 3 (severe): Major intellectual incapacity (cannot follow news or personal events, cannot sustain complex conversation, considerable slowing of all output) or motor disability

CODING FOR Q45A, MYELOPATHY SEVERITY.

Stage 0: Normal

Stage 1: Tandem gait may be impaired, but the patient can walk without assistance.

Stage 2: Ambulatory, but may require single prop (eg, cane).

Stage 3: Cannot walk unassisted, requiring walker or personal support, usually with slowing and clumsiness of arms as well.

Q47a. **NEUROLOGICAL OUTCOME** |__|
1 – no need for neurological follow-up – return to regular 2-year neuropsychological testing (Form 8); 2 – neurological (Form 10) and neuropsychological (Form 8) follow-up in 6 months; 4 - other; 9 - unknown

Instructions: Record here comments about the exam. Eg, if you detect an abnormality, what do you think is its cause? Detail additional work-up here.

Q47b. **FURTHER TESTING** 1 - no; 2 - yes (select from list)

MRI	|__|	HTLV serology	|__|	Biopsy	|__|
CSF	|__|	Thyroid function	|__|	Further Neuropsych	|__|
NCV	|__|	RPR/FTA	|__|	Other	|__| _____
		B12	|__|		

Q48. **WERE YOU AWARE OF PARTICIPANT'S SEROSTATUS DURING EXAM?** |__|
1 - yes; 2 - no; 9 - missing

Q49. **NEUROLOGICAL EXAMINER CODE** |__||__||__|

Instructions: This section is for additional clinical information to be obtained after completion of the neurological history and exam. Once these sections have been completely finished and the codes recorded, move on to this section and record your notes.

Clinical symptoms: Since your last MACS visit, have you had any HIV-related illnesses, such as fever, diarrhea, PCP.

Antiviral therapy: Describe your antiviral use: start date, type of antiviral, side effects.

CDC-DEFINED AIDS DIAGNOSES

03 **Toxoplasmosis** (at a site other than or in addition to liver, spleen, muscle or lymph nodes)
09 **Primary lymphoma of brain**
11 **Diffuse, undifferentiated B-cell non-Hodgkin's lymphoma** metastatic to brain
12 **Progressive multifocal leukoencephalopathy** (Papovavirus infection, brain)
13 **HIV encephalopathy** determined to be probable after review by Neuropsychology working group.
20 **Cryptococcal meningitis**
27 **CMV polyradiculitis**. Usually developing in a patient with advanced immune deficiency who has evidence of CMV infection elsewhere, eg, CMV retinitis, colitis, with the subacute onset of lower extremity weakness, sacral/back pain, sphincter disturbance. Cerebrospinal fluid analyses usually show a marked inflammatory response with elevated WBC, total protein, and in 50%, positive CMV culture. Autopsy confirmation may be present with demonstration of CMV in the lumbosacral nerve roots.

MYELOPATHIES

3-120 **Vacuolar myelopathy**. Usually developing in a patient with advanced immune deficiency and symptomatic HIV disease, will include the development of leg weakness, usually bilateral, with increased tone, spasticity, and hyperreflexia. HIV dementia often co-exists. Imaging studies of the spinal cord (myelography, spinal MRI, spinal CT) are usually normal. Cerebrospinal fluid analysis has no specific features.
3-121 **Infectious causes of myelopathy**. These would include Pott's disease (tuberculosis of the spine), epidural bacterial abscesses, and herpes group infections of the spine. An example of the latter might be a patient with advanced immune deficiency with evidence of CMV elsewhere who develops acute spinal cord dysfunction and has positive spinal fluid culture for CMV.
1-122 **Metabolic/nutritional causes**. Example: Vitamin B12 or vitamin E deficiency.
1-123 **Other myelopathies**, not otherwise specified. For example, patients with cervical spondylosis, degeneration of the spine with compressive myelopathies.

MYOPATHIES

3-130 **HIV-related polymyositis**. The development of weakness, principally in proximal muscle groups (thighs, shoulders) with muscle aching (myalgias), elevated levels of blood creatine phosphokinase (CPK), EMG, if performed may show evidence of a myopathy. Muscle biopsy, if performed, may show inflammatory necrosis.
1-131 **Toxic myopathy**. This is clinically indistinguishable from HIV-1 related polymyositis and usually occurs in patients who have received AZT at high dose (>1000 mg daily) for at least 9 to 12 months. Clinical picture and EMG cannot distinguish toxic myopathy from HIV polymyositis and we don't yet know if there are any specific biopsy findings to distinguish the two conditions. In practice, if AZT is discontinued and there is clinical improvement with reduction in the myalgias and a drop in the blood CPK levels, the myopathy is usually categorized as being a toxic effect of AZT.
1-132 **Other myopathies**, not otherwise specified. These might include muscular dystrophy, severe muscle wasting from nutritional deficiency.

HIV-RELATED PERIPHERAL NEUROPATHIES

3-100 **Cranial neuropathies**. The acute or subacute development of cranial neuropathies thought to be related to HIV infection, eg, development of facial palsy in the setting of acute seroconversion illness with acute aseptic meningitis.

3-101 **Painful sensory neuropathy**. The development of painful paresthesias, dysesthesias (usually in a patient with advanced immune deficiency and symptomatic HIV disease) with objective signs of peripheral neuropathy such as depressed ankle reflexes, contact hypersensitivity in the feet, impaired vibratory sensibility in the feet. Additional supporting evidence would include nerve conduction velocities (NCV's), electromyography (EMG), and sural nerve biopsy.

3-102 **Inflammatory demyelinating neuropathy**. The acute or subacute development of motor weakness (usually with relatively little sensory involvement) usually in a patient in the relatively early stages of HIV infection, ie, before symptomatic HIV disease. Examination findings would include hypo- or areflexia, motor weakness, and variable sensory deficit. Corroborating evidence would include NCV's and/or EMG's demonstrating marked slowing of conduction velocities and/or denervation. Sural nerve biopsy indicating inflammation demyelination in the peripheral nerve.

3-103 **Mononeuritis multiplex**. Usually developing in a patient with symptomatic HIV disease with the development of multifocal signs and symptoms, eg, numbness, weakness, in the distribution of 2 or more named peripheral nerves, eg, foot drop and hand numbness.

3-105 **Other HIV neuropathies** (not otherwise specified). Includes all other neuropathies that might be a consequence directly or indirectly of HIV infection.

OTHER NEUROPATHIES (NON-HIV RELATED)

1-110 **Cranial neuropathies**. The development of cranial neuropathies considered not to be a consequence of HIV infection. These might include development of progressive hearing loss or optic neuritis.

1-111 **Entrapment neuropathies**. These include the development of traumatic neuropathies affecting a named peripheral nerve with numbness, weakness, and/or pain in the distribution of the nerve, eg, carpal tunnel, tarsal tunnel, cubital tunnel.

1-112 **Toxic neuropathies**. These include the development of neuropathies (which are usually painful or sensory neuropathies) related to toxic effects of drugs, eg, vincristine used in the treatment of KS, or dideoxycytodine (ddC) or dideoxyinosine (ddI). Toxic neuropathies can also develop with excessive doses of vitamin B6 (pyridoxine).

1-113 **Diabetic neuropathy**. The development of sensory motor neuropathy, autonomic neuropathy, diabetic amyotrophy in a patient with longstanding, usually insulin-dependent, diabetes mellitus.

1-114 **Other neuropathies**, not otherwise specified. These might include neuropathies related to syphilis, nutritional deficiencies, alcoholism, hereditary Charcot-Marie-Tooth, meralgia paresthetica.

OTHER NEUROLOGICAL DISEASES

1-140 **Neurosyphilis**. This would include a past or current history of treatment for neurosyphilis, either asymptomatic neurosyphilis (usually diagnosed if a lumbar puncture is done and the CSF VDRL is positive) or symptomatic neurosyphilis. Treatment of neurosyphilis typically includes (a) high doses of intravenous penicillin given during a 10 to 14 day hospital stay, or (b) daily doses of procaine penicillin with probenecid given for 10 to 14 days.

3-141 **HIV aseptic meningitis**. Development of fever, headache, neck stiffness, cranial neuropathies and mental confusion of encephalopathy. Usually associated with seroconversion illness in an otherwise well individual.

3-142 **Possible HIV encephalopathy**. Case reviewed by Neuropsychology Working Group (NPWG) as possible. Cases not yet reviewed by NPWG also are in this category.

3-144 **Herpes Zoster Meningitis**. ICD-9 code 53.0

END OF EXAM - NEUROLOGY

After completing the exam, the examiner should answer the following questions (these questions are for local use only – they are not sent to CAMACS):

a) Did the subject have any temporary physical limitations (such as a broken arm, swollen fingers, etc.) that might have affected the test results? (1 = yes, 2 = no) . . . . . _____

b) Based on the information you have available from your exam, how would you rate the overall exam? (Include information from the standard neurological exam only.)

(1) Normal
(2) Equivocal
(3) Definitely abnormal
(9) Exam not completed . . . . . _____

c) **Differential Diagnosis (Non-HIV)**: (List all possible diagnoses *unrelated* to HIV infection. Use diagnoses on attached pages. If none, write 'NONE'.) [Coding: Enter 2 for none, otherwise leave blank] . . . . . _____

Diff Dx (non-HIV): _____

_____

d) **Differential Diagnosis (HIV-related)**: (List all possible diagnoses related to HIV infection. Use diagnoses on attached pages. If none, write 'NONE'.) [Coding: Enter 2 for none, otherwise leave blank] . . . . . _____

Diff Dx (HIV-related): _____

_____

e) Relative to this subject's previous exams, the current exam shows: (1) global deterioration; (2) deterioration overall, though some areas were stable or showed improvement; (3) stable overall; (4) improvement overall, though some areas were stable or showed deterioration; (5) global improvement; (9) unable to evaluate . . . . . _____

f) Do you think this exam should be reviewed for HIV dementia? (1=Y, 2=N) . . . . . _____

EXAMINER'S COMMENT SHEET MACS ID #: _____

NEUROLOGICAL EXAM Date: _____

Examiner: _____

Use the space below to summarize your findings:

IMPRESSIONS:

RECOMMENDATIONS FOR FOLLOW-UP EVALUATIONS: