THIS PARTICIPANT WAS ENROLLED IN MORE THAN ONE STUDY.

PLEASE CHECK

CHONI NC 03

FOR COMPREHENSIVE INFORMATION and/or ADDITIONAL STUDY MATERIALS.

ACH WORKBOOK

Cholinergic PET imaging of Parkinson's disease and related disorders (HUM00074768)

⌘ Enter information in workbook as complete as possible. Document all omissions.

⌘ Make sure each page has correct study code and examiner's initials.

⌘ Make sure to complete workbook/study materials checklist before subject leaves.

⌘ Document if subject is dual-enrolled with other studies.

⌘ Document any side effects or problems.

⌘ Document any deviation from protocol and reason for the deviation.

INFORMED CONSENT

➔Please check expiration date of consent form before signing←

Informed consent was obtained prior to the start of research procedures with the following persons present:

1._____*participant*_____

2._____*Christine Minderovic*_____

3._____

4._____

The following elements of the study were discussed in more detail (check all that apply)

☑ Clinical testing procedures
☑ Imaging
☑ General or radiation safety
☑ Confidentiality
☑ Time commitment
☐ Other: _____

The research participant communicated understanding of: (check all that apply)

☑ Main tasks to be completed
☑ Number of visits
☑ One or more potential risks of participation

Average duration of time spent for explanation of study and answering questions was

☑ 15 minutes or less   ☐ 16-30 minutes   ☐ more than 30 minutes

---

I discussed the risks, benefits, and alternatives with the research participant and reviewed the consent form. I answered all questions to his/her satisfaction. The research subject agreed to participate in the research study and signed the consent from prior to beginning any research procedures.

Print name & Signature   Time____*7-15-14*____

Christine Minderovic

Inclusion/Exclusion Criteria PD

INCLUSION FOR (circle) PD PSP SCA3 (NC)	
(YES) / NO	Age 40 and above, Male or Female
YES / NO / (NA)	PD diagnosis established according to the UK Parkinson's Disease Society Brain Bank Research Center (UKPDSBRC) clinical diagnostic criteria for PD.
YES / NO / (NA)	PD subjects at risk for dementia
YES / NO / (NA)	Absence of dementia confirmed by clinical and detailed neuropsychological assessment
YES / NO / (NA)	PSP subjects according to NINDS criteria
YES / NO / (NA)	SCA3 subjects as defined by the specific genotype of genotype confirmed family history
(YES) / NO / NA	Age-matched normal controls
EXCLUSION	
YES / (NO)	Subjects with contra-indications to magnetic resonance imaging (MRI), including, but not limited to, those with pacemakers, or claustrophobia
YES / (NO)	Evidence of large vessel stroke or mass lesion on MRI
YES / (NO)	Subjects using anticholinergic (Trihexyphenidyl/Artane, Benztropine/Cogentin) or neuroleptic drugs at baseline
YES / (NO)	Evidence of atypical parkinsonism other that PSP or SCA,on neurological exam
YES / (NO)	Subjects limited by participation in research procedures involving ionizing radiation
YES / (NO)	Pregnant (absence to be confirmed within 48 hours prior to each PET session) or breastfeeding
(YES) / (NO)	Active smoking, use of other tobacco products, or use of nicotinic drugs such as nicotine patches or varenicline

MOTOR TEST BATTERY

Peg OFF	RT HAND	LT HAND
2 ROWS	25.9	27.4
5 ROWS	62.5	65.4

FOOTTAPPING

- ☐ Right Foot—2 trials
- ☐ Left Foot—2 trials
- ☐ Alternate foot tapping
- ☐ Alternate Foot tapping with Cog task
- ☐ Parallel Foot Tapping

FINGER TAPPER "OFF"	RIGHT HAND	LEFT HAND
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
MEAN	38.4	37.6

Start number _____

Trials _____ 4

Errors _____ 0

BIOTHESIOMETER

	Right Ankle	Left Ankle
Trial 1	15	10
Trial 2	10	10
Trial 3	6	6
Mean	10.3	8.6

BALANCE, TREM, RXN

☑ Sensory Organization Test	
☑ Motor Control Test	
☑ Tremorometer	
☑ Motor Reaction Test	
☑ APDM Sensor Assessment	

ITug	ISaw	Firm-EO	Firm-EC	Pad-EO	Pad-EC	Ramp-EO	Ramp-EC
☑	☑	☑	☑	☑	☑	☑	☑

iTUG preferred turning direction   RIGHT   LEFT

☑ Mini-BESTest Sensor test

☑ GaitRite Assessment

☑ Protokinetics (Zeno) Walkway Assessment

CW Turn	CCW Turn	NP Stop	FP Stop	CW Turn & Stop	CCW Turn & Stop	CW Spot Turn	CCW Spot Turn	OBST
☑	☑	☐	☑	☑	☑	☑	☐	☐

VISUAL ASSESSMENT

☑ **TONOMETER**   RT **17.0**   LT **17.3**   ☑ **OPTOVUE**

☑ **ISHIHARA** (see next page) _____ **17** /17

☑ **MUNSELL 100**   TES (total error score) _____ **8**

☐ **RABIN CONTRAST**: Log CS Score _____ **1.45**

STEREO BUTTERFLY: ☑ Correct Identification   ☐ Identification of generic 3-D object

STEREO FLY: ☑ Correct Identification   ☐ Identification of 3-D wings after prompting

STEREO CIRCLES: _**6**_ / 9

STEREO ANIMALS: _**3**_ / 3   ☑ CAT   ☑ RABBIT   ☑ MONKEY

ISHIHARA TEST

Plate #	Normal Person	Red/Green Deficiencies				Total Color Blindness
1	12	12				12
2	8	3				X
3	6	5				X
4	29	70				X
5	57	35				X
6	5	2				X
7	3	5				X
8	15	17				X
9	74	21				X
10	2	X				X
11	6	X				X
12	97	X				X
13	45	X				X
14	5	X				X
15	7	X				X
16	16	X				X
17	73	X				X
18	X	5				X
19	X	2				X
20	X	45				X
21	X	73				X
		Protan		Deutan		
		Strong	Mild	Strong	Mild	
22	26	6	(2)6	2	2(6)	
23	42	2	(4)2	4	4(2)	
24	35	5	(3)5	3	3(5)	
25	96	6	(9)6	9	9(6)	

*numbers in () show they can be read but they are comparatively unclear.

**use plates 26-28 if numbers cannot be read. Winding lines between the two X's are traced with finger.

☐ Plates 1-17: __17__/17 ≥ 14 correct: Normal   ≤ 13 Correct: Administer 18-21.

☐ Plates 18-21: _____/4

☐ 22: _____   ☐ 23: _____   ☐ 24: _____   ☐ 25: _____

☐ Protan S/M   ☐ Deutan S / M

6

OLFACTORY ASSESSMENT

☐ Hx allergies/sinusitis   ☐ Stuffy nose today   ☐ Current Smoker   ☐ Hx Smoking

Sensonics

Smell Recognition (UPSIT)   **Score** _____ 38 _____ **/40**   = __88__ %

Sniffin' Sticks (see pages in back for complete data)

Smell Threshold _____ 5, 5 _____

Smell Discrimination _____ 13 __/16

Smell Identification _____ 14 /16

Acoustic Rhinometer

Side	Right	Left
Trial 1 Volume		
Trial 2 Volume		
Trial 3 Volume		
Average Volume	4.84	5.87

Sniff Magnitude Test

Canister 1 ratio: _1.00_   Canister 2 ratio: _1.09_   Canister 3 ratio: _0.99_   Canister 4 ratio: _1.02_

DNA CONSENT OBTAINED: YES / NO

SALIVA OBTAINED: YES / NO / NA / ALT CODE? _____   **BLOOD OBTAINED:** YES / NO / NA / ALT CODE? _____

Neuropsychological Assessment

☑ Montreal Cognitive Assessment (MoCA)	
☑ MMSE	
☑ Parkinson's Disease – Cognitive Rating Scale (PD-CRS)	
☑ Mattis Dementia Rating Scale (MDRS)	
☑ WAIS-III subtest Digit Symbol	
☑ WAIS-III subtest Matrix Reasoning	
☑ WAIS-III subtest Information	
☑ WAIS-III subtest Digit Span (forward & backward)	
☑ D-KEFS subtest Verbal Fluency Test (initial letter fluency F, A and S; Animal Naming)	
☑ D-KEFS subtest Sorting Test	
☑ D-KEFS Color Word Interference Test (STROOP)	
☑ D-KEFS subtest Trail Making Test	
☑ California Verbal Learning Test -II (CVLT)	
☑ Benton Judgment of Line Orientation	
☑ WMS-III, Visual Reproduction	
☑ Boston Naming Test (30 Item)	
☑ Clinical Dementia Rating	

Neuropsychiatric Assessment

☑ Geriatric Depression Scale (GDS)	
☑ Spielberger Trait Anxiety Inventory	
☑ Modified Marin Apathy Evaluation Scale	
☑ General Feelings Questionnaire (GFQ)	
☑ PDQ-39	
☑ MAYO Sleep Questionnaire	
☑ Rhinorrhea Questionnaire	
☑ Brief Psychiatric Rating Scale (BPRS)	
☑ Neuropsychiatric Inventory (NPI)	
☑ Parkinson's Disease- Cognitive Functional Rating Scale (PD-CFRS)	
☑ Instrumental Activities of Daily Life & Physical Self-Maintenance Scale (IADL-PSMS)	
☑ MDS-UPDRS non-motor (I,II, & IV)	

		General Feelings Questionnaire © N. Bohnen, MD
		Circle the following that may apply to you:
		0=Almost Never; 1=Sometimes; 2=Often; 3=Very Often

A	0 1 2 3	It makes me upset to see people disobey the law.
B	0 1 2 3	I am an easygoing and laid back person.
C	0 1 2 3	It is difficult for me to do two things at the same time.
D	0 1 2 3	I like to play the lottery.
E	0 1 2 3	I act on impulse.
F	0 1 2 3	I find it important to know every detail so that I can make the right decision.
G	0 1 2 3	I prefer that people leave me alone and do not bother me.
H	0 1 2 3	I think that others are playing tricks on me.
I	0 1 2 3	Sometimes those close to me are not honest with me.
J	0 1 2 3	I need a careful and detailed plan before acting.
K	0 1 2 3	I believe something bad is going to happen to me.
L	0 1 2 3	I tend to keep at something for so long that others can become irritated with me.
M	0 1 2 3	I am losing initiative
N	0 1 2 3	I feel nervous when I make eye contact with others.
O	0 1 2 3	I get so focused on a thought that I cannot get off of it.

Continue on next page

Circle the Following that may apply to you:

0=Almost Never; 1=Sometimes; 2=Often; 3=Very Often

P	0 (1) 2 3	I need to know all of the details before acting.
Q	(0) 1 2 3	I am uneasy in new surroundings.
R	(0) 1 2 3	I have difficulty ending conversations even when I have nothing to say.
S	(0) 1 2 3	I am overly careful and precise.
T	0 (1) 2 3	A certain line of thought stays on my mind for days at a time.
U	0 (1) 2 3	I easily become irritated when I am interrupted while doing things.
V	0 1 (2) 3	I am flexible.
W	0 1 (2) 3	I say things too quickly without thinking.
X	0 (1) 2 3	I check and re-check things carefully.
Y	0 (1) 2 3	Others find me less interesting. *very subjective*
Z	0 (1) 2 3	I make up my mind quickly.
AA	0 1 (2) 3	I am an outgoing and spontaneous person.

Rhinorrhea Questionnaire

1. Do you have a decreased sense of smell?	☐ Yes ☒ No
2. Do you frequently have a runny nose?	☐ Yes…if yes, continue ☒ No…if no, stop here
3. Is it related to allergies?	☐ Yes ☐ No
4. Is it related to sinus problems?	☐ Yes ☐ No
5. Is it related to frequent colds?	☐ Yes ☐ No
6. If the answers for 3-5 are no, did it start before or after your Parkinson symptoms?	☐ Before ☐ After ☐ N.A. (if you do not have Parkinson's)
7. Does your runny nose worsen with eating?	☐ Yes ☐ No

NEUROPSYCHOLOGICAL TESTING

Education	16		
Age	66		
Gender	F		
Hand Dom	Right		
MOCA	28	MMSE-30	PD-CRS-122
Color Blind	Y / (N)		
Boston	30 /30		
JOLO	25 /30		
Smell	38 /40	% 88 %	

	Subtest	Raw	Scaled
WAIS-III	Digit Symbol (coding):	91	17
	Matrix Reasoning :	22	16
	Digit FW:	12	—
	Digit BW:	6	—
	Digit Total:	18	—
	Information:	26	16

	Subtest	Raw	Scaled
CVLT-II	CVLT-1:	5	-0.5
	CVLT-2:	6	-1.0
	CVLT-3:	10	0.0
	CVLT-4:	10	-0.5
	CVLT-5:	14	1.0
	CVLT-STM:	15	2.0
	CVLT-LTM:	13	0.5
	RECOGNITION:	16	0.5

REACTION TIME TEST	RXN R/L	254	SD	72
	CHOICE	520	SD	558
	CONDITIONAL	807	SD	174

D-KEFS		Raw	Scaled
	STROOP-I:	45.0	
	STROOP-II:	53.3	
	STROOP-III:	86.8	
	STROOP-IV:	94.0	

	Subtest	Raw	Scaled
	SORTING-1:	24	
	SORTING-2:	24	
	RECOGN-1:	24	
	RECOGN-2:	24	

F	A	S	ANIMALS
21	19	19	23
FAS TOTAL 59	FAS SCALED 17		

TRAIL MAKING TEST	TMT 1	19.7	
	TMT 2	22.4	
	TMT 3	18.4	
	TMT 4	47.3	
	TMT 5	14.9	

WMS III	Design A	10		
	Design B	10	TOTAL	86
	Design C	18	#.errors	
	Design D	25	SCALED	14
	Design E	23		

DRS		RAW	AMSS	PERCENT
	ATT	37	13	82-89
	I/P	37	11	60-71
	CONST	6	10	41-59
	CONCEPT	37	10	41-59
	MEMORY	25	13	82-89
	TOTAL RAW 142	T.AMSS: 13 AEMSS: 12		82-89

14

SNIFFIN' STICKS ODOR THRESHOLD $\quad$ 5.5

DILUTION							
1							
2							
3							
4				++			
5				~	++	++	
6			++	∅	⊄	+0	
7			~	∅			
8	++		0				
9	~	++	0				
0	+0		∅				
11	~						
12	+0						
13	~						
14	∅						
15	~						
16	∅						

SNIFFIN' STICKS ODOR DISCRIMINATION

Mark each box with   R (red)   G (green)   B (Blue)

1	*G*
2	*G*
3	*G*
4	*B* x
5	*G*
6	*G*
7	*G*
8	*G*
9	*B* x
0	*G*
11	*G*
12	*G*
13	*G* x
14	*G*
15	*R* x
16	*G*

$$\frac{13}{16}$$

SNIFFIN' STICKS ODOR IDENTIFICATION

1	**(ORANGE)**	BLACKBERRY	STRAWBERRY	PINEAPPLE
2	SMOKE	GLUE	**(LEATHER)**	GRASS
3	HONEY	VANILLA	CHOCOLATE	**(CINNAMON)**
4	CHIVE	**(PEPPERMINT)**	FIR	ONION
5	COCONUT	**(BANANA)**	WALNUT	CHERRY
6	PEACH	APPLE	LEMON	**(GRAPEFRUIT)**
7	**(LIQUORICE)**	CHERRY	SPEARMINT	COOKIES
8	MUSTARD	GUM	MENTHOL	**(TURPENTINE)**
9	ONION	SAUERKRAUT	**(GARLIC)**	CARROTS
10	CIGARETTES	COFFEE	WINE	**(SMOKE)**
11	MELON	PEACH	ORANGE	**(APPLE)**
12	**(CLOVES)**	PEPPERMINT	CINNAMON	MUSTARD
13	PEAR	PLUM	PEACH	**(PINEAPPLE)**
14	CAMOMILLE	RASPBERRY	**(ROSE)**	CHERRY
15	**(ANISE)**	RUM	HONEY	FIR
16	BREAD	**(FISH)**	CHEESE	HAM

$$\frac{14}{16}$$

17