An Investigation of the Physical Task Demands of Caregivers Working in a Long-Term Care Facility

Study Protocol and Appendix

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Appendix A: Ergonomic Tool

Participant ID: _____ No: _____

Date: _____Location: _____

The aim of the evaluation is to observe and record the various motor tasks performed by the participants during a typical day at work.

There will be no assessment of movement quality or techniques used; the aim is simply to count and record the number of times each movement or motor task has been performed during the day.

Part 1: Patient Transfers

A- The caregiver did NOT use any tools or aids while performing the following transfer tasks:

Type of transfers requiring Physical assistance from the caregiver	**Number of transfers completed**	**Resident condition** **1. No assistance from resident** **2. Assist/Help** **3. Guidance only**	**Duration (minutes): Record 3 separate trials**
Bed to Wheelchair			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Wheelchair to Bed			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Wheelchair to chair			**AM** **1 –** **2 –** **3 –**

			PM **1 –** **2 –** **3 –**
Chair to Wheelchair			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Wheelchair to Toilet			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Toilet to Wheelchair			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**

B- The caregiver used tools and/or aids while performing the following transfer tasks:

Type of transfers requiring physical assistance from the caregiver	**Number of transfers completed**	**Resident condition** **1. No assistance from resident** **2. Assist/Help** **3. Guidance only**	**Duration (minutes): Record 3 separate trials**
Bed to Wheelchair – with the use of tools/aids			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Wheelchair to Bed – with the use of tools/aids			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Wheelchair to Chair – with the use of tools/aids			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Chair to Wheelchair – with the use of tools/aids			**AM** **1 –** **2 –** **3 –**

…			**PM** **1 –** **2 –** **3 –**
Wheelchair to Toilet – with the use of tools/aids			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**
Toilet to Wheelchair – with the use of tools/aids			**AM** **1 –** **2 –** **3 –** **PM** **1 –** **2 –** **3 –**

C- Tools used by caregiver for resident transfers:

Type of tool <u>used with mechanical assistance</u> when transferring the resident (e.g., ceiling lifts).	**Number of transfers completed**

Type of tool <u>used WITHOUT mechanical assistance</u> when transferring the resident (e.g., transfer boards).	**Number of transfers completed**

Part 2: Resident handling

A - Resident handling in <u>Bed</u>

Resident handling Movement Patterns	**Number of handlings completed**
Side to side (turning a resident to their side ex: Turn 1, Turn 2)	
Straightening (sit/back)	
Side bearing	
Pull a patient up in bed (ex: Up in Bed) (vertical)	
Pull a patient down in bed (ex: Up in Bed) (vertical)	
Horizontal pull (ex: Side 1, Side 2)	
Horizontal pull (lower limbs)	
Additional Movement Patterns	

B: Resident handling in <u>Wheelchair – Sitting</u>

Motor task	**Number of handlings completed**
Side to side	
Lift up	
Repositioning of lower limbs	
Additional Movement Patterns	

Part 3: Motor tasks – Housework – Sanitary

Motor tasks	Number of times completed
Making a bed	
Leaning towards the ground (e.g., picking up an object, rubbing dirt on the floor)	
Lifting an object that weighing more than 10 pounds	
Assisting the resident with their bathing needs	
Washing a resident independently (without help)	
Assisting a resident to walk	
Assisting in dressing and undressing a resident	
Assisting a resident to eat	Standing: Sitting:
Other	

Part 4: Time spent under different type of behaviors (lasting more than 10 mins)

Workplace Movement	**Number of times (+10mins)**	**Duration (minutes): Record 3 separate trials**
Standing (working)		**1 –** **2 –** **3 –**
Sitting (working)		**1 –** **2 –** **3 –**
Walking (working)		**1 –** **2 –** **3 –**
Walking (pushing a wheelchair or carrying an object) - loading		**1 –** **2 –** **3 –**
Other		
		1 – **2 –** **3 -**

Part 5 : Additional Information

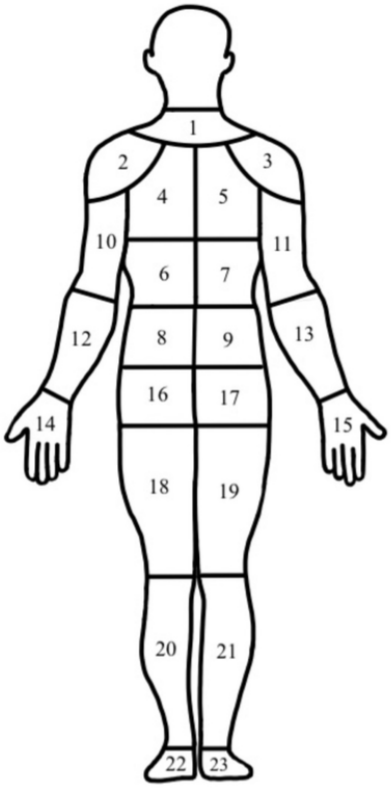
Number of hours worked without a break (max)	
Total hours worked	
Total rest time (hours)	
Other	

Part 6 : Field observations :

APPENDIX B – Rate of Perceived Questionnaire (RPD)

Patient handling

*During the technique did you experience discomfort in the following areas ?



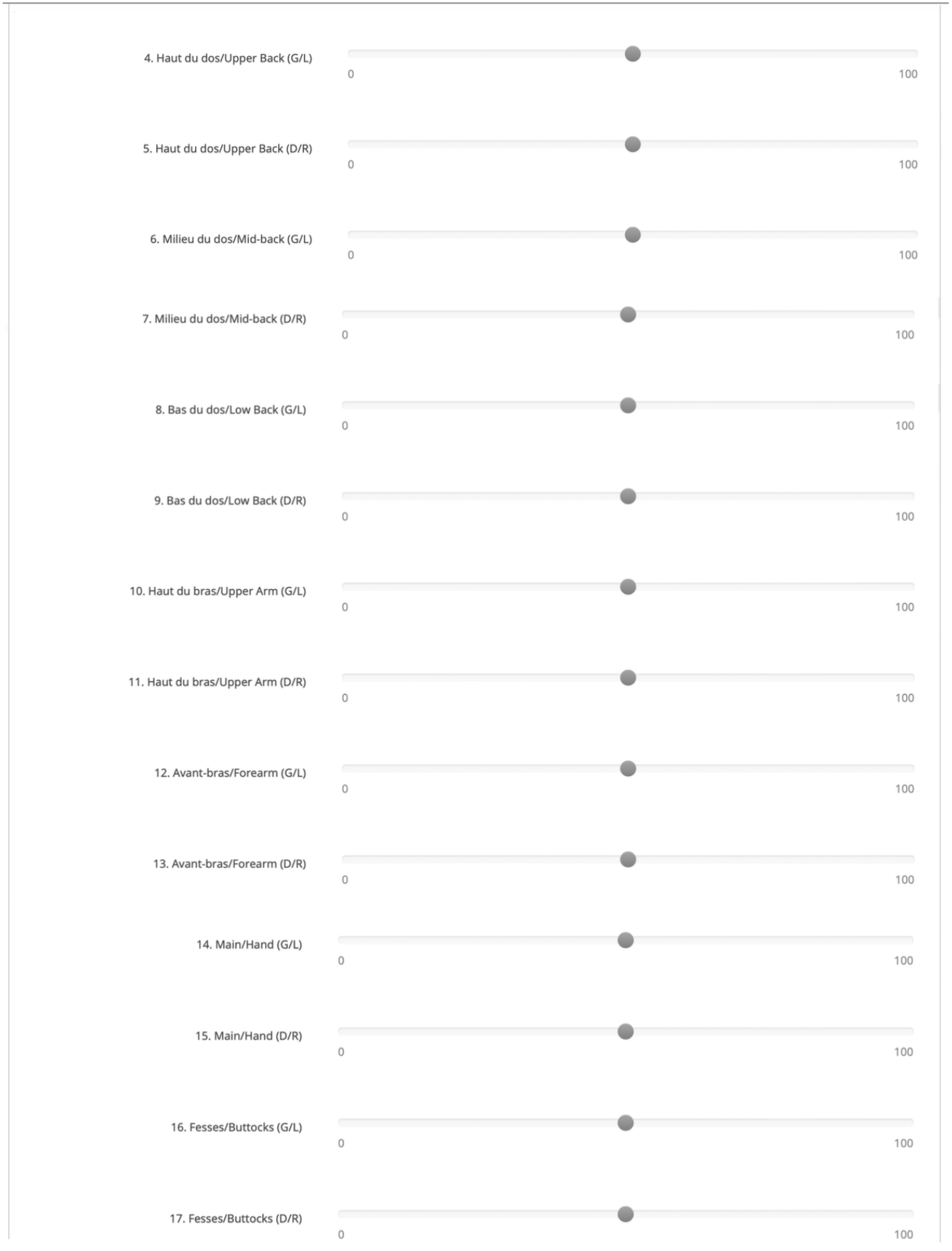
Refer to the diagram for body part guidance

0 represents no discomfort, 100 represents extreme discomfort

1. Cou/Neck
0 100

2. Épaule/Shoulder (G/L)
0 100

3. Épaule/Shoulder (D/R)
0 100


4. Haut du dos/Upper Back (G/L)
0
100
5. Haut du dos/Upper Back (D/R)
0
100
6. Milieu du dos/Mid-back (G/L)
0
100
7. Milieu du dos/Mid-back (D/R)
0
100
8. Bas du dos/Low Back (G/L)
0
100
9. Bas du dos/Low Back (D/R)
0
100
10. Haut du bras/Upper Arm (G/L)
0
100
11. Haut du bras/Upper Arm (D/R)
0
100
12. Avant-bras/Forearm (G/L)
0
100
13. Avant-bras/Forearm (D/R)
0
100
14. Main/Hand (G/L)
0
100
15. Main/Hand (D/R)
0
100
16. Fesses/Buttocks (G/L)
0
100
17. Fesses/Buttocks (D/R)
0
100

18. Jambe supérieure/Upper Leg (G/L)

0 100

19. Jambe supérieure/Upper Leg (D/R)

0 100

20. Jambe inférieure/Lower Leg (G/L)

0 100

19. Jambe supérieure/Upper Leg (D/R)

0 100

20. Jambe inférieure/Lower Leg (G/L)

0 100

21. Jambe inférieure/Lower Leg (D/R)

0 100

22. Pied/Foot (G/L)

0 100

23. Pied/Foot (D/R)

0 100

Next

Appendix C: H&L-Q (Lifestyle Questionnaire)

Participant ID_____ Date_____

Sex_____ Age_____ Years of experience in the field_____

Work status (full-time or part-time): _____

Answer the next section to the best of your knowledge.

1. How many times per week do you participate in cardiovascular exercise (including walking, jogging, biking, swimming; etc.) _____
   If so, for how long (average) _____minutes. Total: _____ minutes/week.

2. How many times per week do you participate in strength training (muscular) exercise (lifting weights, body weight exercises, bands; etc.) _____
   If so, for how long (average) _____minutes. Total: _____ minutes/week.

3. How many average units of alcohol (1oz) do you consume per week? _____ oz/week.

4. Are you a regular tobacco user? If so, do you consume daily? (Yes or No) Or, do you consume only a few times a week? (Yes or No)

   What form of tobacco do you use? (Cigarette, Vape, Chew, or Other)

5. How would you rate your average quality of sleep on a scale of 1-10 (1 being very poor and 10 being great)? _____.
   What is your typical bedtime and wake up schedule? _____ PM/AM - _____PM/AM

How much time do you spend in a sedentary behavior at **home** (ex: sitting, laying down screentime…)

1) Less than 2 hours/day
2) Between 2 to 4 hours/day
3) Between 4 to 6 hours/day
4) Between 6 to 8 hours/day
5) More than 8 hours/day

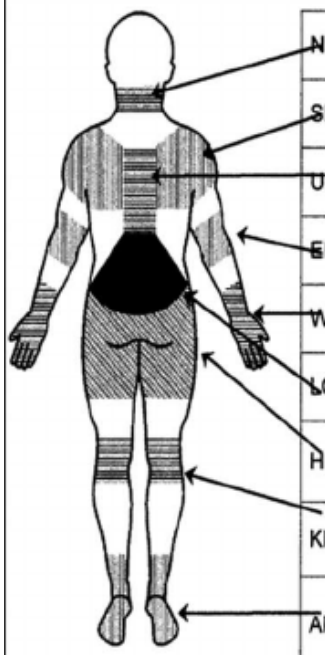
How much time do you spend in a sedentary behavior at **work** (ex: sitting, laying down screentime…)

1) Less than 2 hours/day
2) Between 2 to 4 hours/day
3) Between 4 to 6 hours/day
4) Between 6 to 8 hours/day
5) More than 8 hours/day

Have you ever experienced work-related musculoskeletal injury (muscle, ligament or bone injuries that affect your ability to perform your job or interfere with your everyday life)

1. Yes
2. No

If yes, please fill out this Nordic questionnaire:
Important note: The term "discomfort" refers to persistent discomfort caused by musculoskeletal injury or pain, and the terms "tightness" or "stiffness" that are **NOT** persistent are not applicable to this term.



	Have you at any time during the last 12 months had trouble (such as ache, pain, discomfort, numbness) in:	During the last 12 months have you been prevented from carrying out normal activities (e.g. job, housework, hobbies) because of this trouble in:	During the last 12 months have you seen a physician for this condition:	During the last 7 days have you had trouble in:
NECK	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
SHOULDERS	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
UPPER BACK	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
ELBOWS	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
WRISTS/ HANDS	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
LOWER BACK	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
HIPS/ THIGHS	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
KNEES	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes
ANKLES/ FEET	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes	☐ No ☐ Yes

If yes, how, and when did the injury (ies) occurred.

_____
_____
_____.

Did you have to take some time off from work due to this injury, if so, please elaborate:

_____
_____
_____.

How would you rate the overall physical demands of your work?

1. Very Easy
2. Easy
3. Average
4. Difficult
5. Very Difficult

Based on your baseline level at the start of the day, how would you rate your level of fatigue at the end of your workday on average on a scale of 0 to 10?

_____
_____.

What suggestions do you have for interventions or strategies that could potentially reduce the physical demands of your work and ensure your safety and well-being at work?

_____
_____
_____.

General Comments:

_____
_____
_____.