

## Sleep as homework and engagement in rehabilitation

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## Sleep as Homework and Engagement in Rehabilitation

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### Abstract

In today's push for shorter and quicker hospitalizations, everyday life often becomes a place of rehabilitation for people after they undergo surgical procedures. In order for hospitals to manage shortened periods of admission and to facilitate post-operative rehabilitation, a patient's active engagement has become a central element to clinical treatment and care in Denmark. For example, in the recovery from orthopedic surgery, sleep becomes a type of "homework" assignment that is a vital element of the patient's rehabilitation trajectory. Building on the theoretical concept of 'engagement' developed by Gilles Deleuze and Félix Guattari (2005), we examine the patient's relation to sleep as part of recovery; we refer to this as 'sleep engagement.' In particular, we analyze sleep as part of an institutional pedagogy in rehabilitation, and we ask how this pedagogy mobilizes rehabilitation for older patients after they have been admitted to the hospital for an orthopedic surgical procedure. Using ethnographic material, our analysis leads to a discussion of institutional expectations for what it means to be engaged in one's own patient trajectory. The article presents three results: 1) Expectations of sleep as an institutionally defined homework assignment are fulfilled through the establishment of the 'rehabilitable and non-rehabilitable body'; 2) As an active attempt to mobilize resources in rehabilitation, patient sleep engagement becomes part of a historical and contextual nexus; and 3) Institutional sleep potential creates new points of ambivalence—on the one hand, sleep is an optimization-promoting requirement in order to exercise while, on the other hand, the midday nap reflects an outdated view of old age that opposes an active lifestyle perspective.

*Keywords:* sleep; patient-engagement; rehabilitation and everyday life; aging; relational ontology

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# Sleep as Homework and Engagement in Rehabilitation

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## Introduction

With the introduction of ‘fast track’ programs in Danish hospitals and generally reduced admission periods, patients’ own efforts in post-operative rehabilitation have gained importance. Fast track is the name of a trajectory that allows patients operated with total hip alloplasty (THA) and total knee alloplasty (TKA) for faster discharge. The purpose is to reduce the length of hospital stay and prevent readmissions, minimize surgical complications, decrease morbidity, and improve cost-effectiveness. These goals are founded on standardized regimes that are based on a large amount of research-based evidence from randomized controlled trials (RCTs). Previously patients used to lie in bed for weeks after an operation (Søndergaard 2007), whereas now bed rest is considered problematic. Instead, patients are encouraged to engage in physical ‘activity’ that e.g., involves getting out of bed and engaging in their own recovery trajectory through activity and taking responsibility and initiative for activity to happen (Holen and Ahrenkiel 2011; Larsen 2019). This new patient position becomes the new mantra after surgery and particularly orthopedic surgery. Being active thus becomes a way for patients to express their motivation to participate in the institutionally defined activities (Holen and Ahrenkiel 2011; Meldgaard Hansen 2016) during hospitalization and after discharge. In a joint seminar prior to the scheduled surgery, the surgeons, physical therapists, and nurses involved typically emphasize the need for activity, personal responsibility in management of the rehabilitation process. It is also during this seminar that the term ‘patient’ is replaced with the term ‘partner,’ indicating the desired clinical relationship in the trajectory to come.

These changes in patient- and rehabilitation regimes invite for a conceptualization of rehabilitation. Illness and trauma limit or alter bodily capacity and thus change the relations we have with our surroundings (Fox and Alldred 2016). Rehabilitation is the process of making new and effective relations in a changed reality. What is conceived as *effective* does not refer to a biological issue but rather to the possibility of (re)integrating the injured body into one’s environment and daily life. Anthropologist Cheryl Mattingly explains why integration is more than a biological issue: “the patient had not just injured a hand or suffered a brain lesion, but in the process disrupted an entire life” (Mattingly 1991, 983). Mattingly emphasizes how historicity is built into bodies and into the way bodies engage with the surroundings in everyday life, or what can be stated as ‘functionality.’ Mattingly focus on the phenomenological experiences of rehabilitation and describes the body as phenomenological with own sense of identity and lived experiences why body changings imposes a process of making sense of these changes in functionality and reclaiming the body, and thereby articulate a new sense of self (1991). Another way to conceptualize ‘functionality’ is proposed through Science and Technology Studies in which the focus is on how a network of relations that enable one to act is created. This means that people are enabled to act in and by the practices and relations in which they are located (Moser 2006). Functionality or capability is here understood as a relational matter enacted through the social and physical surroundings. Changed bodily capacities are, in this sense, a disruption of everyday

relational arrangements. Moser (2006) further argues how the concept of ability, and thereby disability, is shaped through technology and medicine as a capacity of active agency and independence. This concept of ability, she argues, directs relational engagements through a normalizing mode of ordering that centers agency in the body.

Eli Clare—an author and activist who writes and lectures about disability, queer and transgender identities, and social justice—discusses how the concept of ‘cure’ via biomedicine becomes a matter of getting as close as possible to the normative universal middle-class body (2017). This pursuit is seen as essential to achieve what anthropologist Matthew Wolf-Meyer calls “full personhood” (2020, 233). The link between the body and personhood causes disability and illness to be associated with not full personhood, which is equated with limited social participation (Rapp and Ginsburg 2001). As a result, biomedicine promises both the restoration of the ‘normal’ body and full social participation (Wolf-Meyer 2020).

After orthopedic-surgical procedures, the focus of rehabilitation is on creating physical functionality; e.g., how much the knee can bend after an operation is measured and used to evaluate the rehabilitation outcome. However, this concept of functionality is linked to the notion of a universal (Lock and Nguyen 2010) and middle-class body (Lupton 2013; Skeggs 1997, 2005) as the norm against which other bodies are measured and which is used to determine adequacy (Buch 2018; Wolf-Meyer 2020). Anthropologist Elana Buch states that the idea of the body as a universal and pre-social object form special expectations, as modes of ordering, affecting the body’s relation to its surroundings, as she defines as ‘embodiment’ (Buch 2018). In a similar conceptualization and body norm critique, embodiment is described as “interactions that are obscured through ideological practices that support neoliberal notions of the individual” (Wolf-Meyer 2020, 232).

From these theoretical perspectives, we understand that what can be termed as functionality and how to become a functional subject is also directed by modes of ordering such as through medical and institutional concepts such as fast track programs and associated patient positions and pedagogies foregrounding a particular conceptualization and significance of engagement.

With the term institutional, we draw on James G. March and Johan P. Olsen (1989), who see institutions such as the hospital as producing norms for appropriate behavior specifying the role of the actor. These norms and rules of appropriate behavior they define as “the routines, procedures, conventions, roles, strategies, organizational forms, and technologies around which activity is constructed. We also mean the beliefs, paradigms, codes, cultures, and knowledge that surround, support, elaborate, and contradict those rules and norms” (March & Olsen 1989, 22). Biomedicine is often foregrounded as a dominating force directing modes of ordering. However, we understand biomedicine as one force among others forming institutional norms such as engagement.

In this article, we examine engagement as a question of how older patients engage in making new and relational arrangements after orthopedic trauma and/or surgery and thereby (re)integrate the body into their environment. To examine engagement we draw on Gilles Deleuze and Félix Guattari’s concept of ‘engagement’; i.e., as the effort and desire to build capacity to create effective relations (2005). With this concept of engagement, we discuss what can be termed as effective in the sense of building capacity and how normalizing modes of ordering produced through medical and institutional concepts form in- and exclusions of bodies and forms of agencies. The article builds on ethnographic fieldwork carried out by one of the two authors.

## Sleep as a Rehabilitative Potential

Sleep is being incorporated into the system of rehabilitation management institutionally constituted as what we propose as ‘rehabilitative homework.’ In the pedagogy for the recovery of ‘partners,’ to practice sleep<sup>1</sup> becomes a means of engaging in one’s recovery trajectory. Along with activity as a dominant requirement, sleeping shifts from being a biological and mundane habit to something individuals can actively manage. With reference to sociologist Deborah Lupton (1997), this practice may be and is likely to be associated with knowledge and motivation shaping a pedagogy of sleep, why sleep managing approaches such as sleep-hygiene-rules have been developed and implemented in clinical practice (Ghavami, Safarzadeh, and Asl 2018; Ghorbani *et al.* 2019; Greve and Pedersen 2015; Machado *et al.* 2017). Sleep hygiene includes guidelines developed by, among others, the American Academy of Sleep Medicine. Sleep hygiene is a central part of the national clinical guidelines in Denmark for nursing interventions concerning sleep. The latter defines sleep hygiene as related “to the habits, relations, and rituals that promote unbroken, strengthening and effective sleep” (Fog *et al.* 2016). Good habits involve following prescripts about tobacco and alcohol intake in the evening, napping, physical activity, eating, bedroom environment.

In the context of rehabilitation in orthopedic trajectories and ‘fast track’ regimes, sleep is seen as both a *barrier* to training and as a *facilitator* for the opportunity to train. In both instances, sleep requires a balancing of time. Balancing time here means that you need sleep to build physical and mental capacity to optimize training possibilities, but time spent on sleeping may not subsume the time that should be allocated to training. Sleep, thereby becomes a means for rehabilitation as well as rehabilitative work in itself (Aasvang, Luna, and Kehlet 2015; Gong, Wang, and Fan 2015; Greve and Pedersen 2015; Krenk, Jennum, and Kehlet 2013; Sveinsdóttir and Skúladóttir 2012).

Within this notion of rehabilitative sleep-practice and as something to be managed, patients’ sleep-practices are assessed as being either an active or passive form of patient engagement. Active sleep engagement is viewed as developmental and motivated sleep behavior, as a will-driven intention to portion sleep in time and place according to institutional time (Larsen 2019). Passive sleep is stagnating and non-motivated sleep behavior. What may be interpreted as passive sleep behavior in practice is often pathologized and, as such, regulated.

Sleep as a rehabilitative practice makes an interesting case for studying how institutional understandings of patient engagement correspond with how patients build capacity to make new arrangements during rehabilitation, and how institutional understandings of engagement allow or prevent the possibility of creating effective relations. Through what we refer to as patients’ ‘sleep engagement,’ we ask how such engagements can be understood as either active or passive in one’s own care trajectory, and how sleep practices may create certain subject positions for some older people. This paper is based on an ethnographic study in which data was collected via participant observation and interviews with eight patients aged 67-86. Data were gathered during the patients’ hospitalizations for orthopedic surgical procedures and over the course of six to eight months post-discharge during 2017. The research is part of the Ph.D. project, “The role of sleep in rehabilitation of older patients during hospitalisation and rehabilitation at home.” The project is co-funded by Roskilde University and the Department of Clinical Research and the Department of Orthopedic Surgery at Amager and Hvidovre University Hospital.

## Rehabilitative Homework – How the Analytical Focus Differs and Builds on the Field and Methodology Within Rehabilitation Studies

Many patients can expect an extended period of rehabilitation after they undergo an orthopedic surgical procedure and hospitalization. Patients are typically discharged to their own homes but some may first

be sent to specialized centers for respite care. Hospitalization varies depending on the diagnosis and can last from one or a few days and sometimes weeks. Such shorter periods of hospitalization can be seen as part of larger neoliberal transformations of the health care sector with centering competencies and resources in fewer but highly specialized hospitals with specialized care guided through quality standards (Christiansen and Vrangbæk 2018) and fast-track programs based on ideals of cost-efficiency, productivity, and individual responsibility. As part of this movement, and in response to a growing aging population and the need to control increasing costs political and economical interests are deeply attached to home-based rehabilitation (Mikkelsen, Schwennesen, and Lassen 2019), and in producing knowledge about how people engage with this rehabilitative homework and the tasks associated with it (Clotworthy 2018; Mattingly, Grøn, and Meinert 2011). From a clinical perspective, research is largely focused on examining patient compliance and the management of self-care with respect to patients' completion of homework assignments related to rehabilitation and as part of overall care trajectories and treatment outcomes (e.g., Hørdam and Boolsen 2017; Kuo *et al.* 2019; Szöts *et al.* 2015). Rehabilitation research related to 'homework' also focuses on the increasing number of people who are living with chronic disease—many of whom are expected to undertake a greater range of tasks. These tasks may include more technological and instrumental tasks related to their own care and treatment, such as through tele-rehabilitation. Here, telecommunications technology is used in rehabilitation (Bugajski *et al.* 2020; Crotty *et al.* 2014; Edbrooke *et al.* 2020) and patients are digitally given tasks previously performed by medical staff. Also, studies addressing municipal rehabilitation programs related to tasks of everyday life may focus on 'homework.' Here rehabilitation also focuses on increasing the level of functionality through training in activities of daily living (ADLs), such as bathing, dressing, cooking, and other household chores, known as reablement (Clotworthy 2017; Cochrane *et al.* 2016; Glendinning *et al.* 2010; Hjelle *et al.* 2017; Lewin and Vandermeulen 2010; Meldgaard Hansen 2015; Thuesen 2013; Vedsegaard 2019; Wilde and Glendinning 2012).

Utilizing a social determinant of health perspective, Helle Vedsegaard (2019) divides home rehabilitation research into two categories: research focusing on the effect of rehabilitation in relation to the citizen's ability to account for care needs and practical tasks in the home; and research focusing on the subjective construction of meaning between institutional rehabilitation initiatives and everyday practice at home and in neighborhoods. This latter field of research highlights the consequences for meaning-making when there is a discrepancy between categories of institutional practice and everyday practice (Andersen, Pedersen, and Steffen 2016; Bødker 2018; Hjelle *et al.* 2017; Mattingly, Grøn, and Meinert 2011; Meldgaard Hansen 2015; Thuesen 2013; Vedsegaard and Dybroe 2020).

In this article, we draw on a third field of research in which home rehabilitation is understood from a socio-material perspective, and which is particularly concerned with technologically mediated homework (Mort, Roberts, and Callén 2013; Oxlund and Whyte 2014; Pols 2012; Pols and Moser 2009; Pols, Willems, and Aanestad 2019; Schwennesen 2017). Within this field technology such as e.g., tele-care which is technical devices and professional practices applied in 'care at a distance,' that supports chronically ill people living at home (Pols 2012) is seen as without an inherent essence and the focus is on studying the effects of the complex assemblage of relations technology is part of. These studies show how homework technology is applied in practice and what this practice is helping to create. They illustrate how technology is creating not only new concepts of care and relations of caregiving, for example, but is also inviting new subject-positions. New modes of caring and notions of rehabilitation both offer new possibilities for agency and becoming-citizen, and simultaneously impose new and changing requirements to live up to in order to be a 'good' citizen or a 'good' patient.

Utilizing a socio-material perspective shifts attention away from rehabilitation as the subjective construction of meaning to a focus on rehabilitation as a process of making new relational arrangements.



We work with a concept of rehabilitation that concerns how people with bodily changes that occur suddenly may create or restore their way of being in the world. Inspired by Deleuze and Guattari, we understand “being in the world” as a way of forming relations with one’s environment (‘environment’ is understood as both social and material) (2005). These relations are created continuously and situationally; in this context, “being” or existence is understood to mean “becoming” (Deleuze 1994; Deleuze and Guattari 2005). Working with becomings means to understand processes as unfinished and delimited events since events are connected to other events, which in themselves are an assemblage of different elements. Examining the rehabilitation process, we explore how ways of becoming-subject emerge. Becoming-subject through rehabilitation and as a temporary knotting of relations is perhaps what anthropologists João Biehl and Peter Locke describe as “the power of specifically growing out of one’s self, of making the past and the strange one body with the near and present” (2017, 4). Ethnographically following and analyzing this process of subjectification as materialization, we undertake an anthropology of becoming (Biehl and Locke 2017).

The focus on becoming instead of being is also employed by Sarah Nettleton, Robert Meadows, and Joanne Neale in a sociological sleep-rehabilitation project (2017). Their aim is to study the ontology of sleep as complex socio-material interactions. They investigate sleep in rehabilitation within an institutional setting; specifically, in relation to residential services for drug and alcohol rehabilitation. In this article, we study sleep as an orthopedic homework assignment in order to analyze the enactment and transformation of ‘engagement’ as an institutional category in mundane practices of becoming-subject through rehabilitation. An anthropology of becoming acknowledges how power and knowledge form bodies, identities, and meanings, and how inequalities disfigure living – while, at the same time, the anthropology of becoming refuses to reduce people to the workings of such forces (Biehl and Locke 2017, 5). Instead, plasticity is emphasized, which also applies power (Biehl and Locke 2017), as the directions that process becoming (Skrubbeltrang, Olesen, and Nielsen 2016). The notion of ‘plasticity’ give us the opportunity to study both stability and instability of the enacting forces and allow us to comprehend how patients live up to, co-create, rework, and ultimately depart from the possible positions that exist for doing rehabilitation (Skrubbeltrang, Olesen, and Nielsen 2016).

Through our examination of older patients’ sleep-practices this article contributes to research on rehabilitative homework with the focus on the transition established between the hospital and everyday life at home. This is an investigation of how institutional norms flow through mundane practices and affect the capacity to make new and relational arrangements after orthopedic trauma and/or surgery and how new ways of becoming subject is directed.

## **Methodology**

The article is based on an ethnographic study of the role of sleep in hospitalization and rehabilitation for older patients who have undergone orthopedic surgery. The empirical material that provides the basis for this analysis was generated during one year of fieldwork, with three months of participant observation in two different units of an orthopedic-surgery department in Denmark: an inpatient unit for scheduled surgeries and a unit for acute orthopedic surgeries. As a follow-up to the participant observations, 24 exploratory interviews with eight patients were conducted after discharge. These patients were aged 67–86, five women and three men. Other than one of the women, who was still working as a teacher (yet who retired six months after her operation), all of my interlocutors were retired. The participants were all part of the Danish ethnic-majority group and had different occupational histories and retired at different ages. Three of the women and one of the men lived alone. Three of them lived alone because their spouses passed away. Of the eight interlocutors, four had planned hip or knee surgery, and the other four were hospitalized due to trauma resulting in knee,

pelvic, neck, and/or hand injuries. Some of those injuries resulted in surgery, and others in pain treatment and relief for the joint. One interlocutor was hospitalized after years of complications from an earlier hip surgery in order to undergo re-surgery.

In this article, we focus primarily on the interviews conducted after discharge, while the fieldwork conducted in the hospital is used as a backdrop to illustrate the medical pedagogies that underpins sleep, and to discuss how this relates to rehabilitation.

The interviews were divided over three visits with each patient and were conducted at intervals of approximately one week after discharge, one month after discharge, and eight months after discharge. The interviews focused on questions about how the patients were doing, how their days would unfold, and their everyday practices, which also presented the patients with the opportunity to reflect on changes over time. At the end of each final interview, concrete sleep-hygiene rules were presented in order to discuss the medical pedagogy of sleep. These were read aloud in the interview and followed by an open discussion about how they related to such rules/guidelines in their everyday lives.

### **Exploring the Concept of Engagement**

'Engagement' is an empirically based concept but one that we also approach theoretically in order to examine how sleep can be understood as a way of making one's own patient trajectory.

Based on Deleuze and Guattari's definition, we understand engagement relationally; this means that engagement is a capacity to create effective relations (2005) in new realities with different bodies. Effective relations are socio-material relationships that for the individual can mobilize resources in everyday-life encounters with other people, things, and places (Vitus 2018). People are made up by relations – as the lived entanglement with their surroundings formed in particular ways due to both historical and present circumstances (Lock and Nguyen 2010). In other words, throughout their lives, people practice how to enter and participate in both physical and social contexts. This process is ritualized through everyday practices—practices that also help direct them into new contexts or relations in which they are included (Deleuze and Guattari 2005, 204; Wolf-Meyer 2012). Relations are materialized through the body, which is why these relations affect the body, while the body, in turn, affects the relations. These relational practices are not deterministic; they can be changed but in a directive sense. The way these relations can be created is influenced by power structures and discourses—e.g., in the field of health, which Deleuze and Guattari argue can serve as a territorialization of the body (2005, 72-73). Territorialization can affect or block the capacity to create effective relations. However, "de-territorializing" and "re-territorializing" relations can be made, as the movement out of territorialization that restore the capacity to create effective relations (Deleuze and Guattari 2005, 72-73). De-territorialization, or lines of flight, can also be made through re-territorialized manifestations by which the relations can be legitimized (Deleuze and Guattari 2005, 5-34). Engagement and the desire that direct the making of new arrangements with the environment are thus steered by what opens or closes for the individual in terms of the body's capacity to create effective relations and a new way of becoming subject. An analysis of patients' sleep engagements also addresses how sleep—as an institutionally enacted rehabilitative potential—can have either a conducive or obstructive impact on a patient's efforts to create effective relations.

### **Analyzing Sleep as Engagements**

The various socio-material conditions of which patients are part of are, together with patients' bodies, included in their engagement in their current situations. In this article, we refer to them as 'sleep engagements.' The focus on sleep engagements is a strategy that, in keeping with Nettleton, Meadows,



and Neale (2017), allows us to examine how a patient's sleep during rehabilitation comes into being in concrete settings and circumstances. We analyze three sleep engagements here to show how they correspond with the hegemonic medical definition of sleep engagement in rehabilitation and how the pedagogy connected to this definition may open or close the possibility of creating effective relations.

The three analytical sections, constructed as narratives, begin with a presentation of the participant and their sleep in everyday life. For our interlocutors, the body has a particularly prominent status in their everyday life and the cases describe how the body is made significant for the way sleep is practiced and positioned during rehabilitation. Each sleep engagement we introduce concludes with an analysis of how sleep as an institutionalized homework assignment may or may not create effective relations in rehabilitation. All interviews have been anonymized, and all of the interlocutors' names are pseudonyms.

### **Eva's Narrative: "Oh, there's nothing wrong with my sleep"**

Eva, age 85, was admitted to the acute orthopedic surgery department because she fell at home and broke her kneecap. Eva had also been diagnosed with a lower-intestinal condition in 1986, and she has chronic obstructive pulmonary disease (COPD), which restricts her breathing. Because of this, she must often sleep sitting up with the aid of a support on the mattress. But she does not consider her sleep to be problematic. During the first visit to her home, she explained, "I sleep wonderfully (emphasizing *wonderfully*), whether I'm in or out." With this, she meant in the hospital or out at home. She remarked, "Oh, there's nothing wrong with my sleep." She told me how she sleeps without interruption from midnight until 5:30 AM when, as she said, "then I just lay there for a while." If she is occasionally unable to fall asleep, she just reads a little. She also does this if she wakes up in the middle of the night.

#### *The dynamic and everyday body and sleep management during rehabilitation*

For Eva, sleep is not the only practice rearranged around bodily changes. For example, she does not leave her apartment before the afternoon because of problems related to her intestinal condition. The biological conditions that regulate her everyday life – such as COPD and the intestinal condition she has lived with for many years – are something that she has integrated into her everyday life and around which she has coordinated her everyday practices. This also applies to her sleep, which is a routine practice that she rarely even thinks about—not even now when additional elements, such as an injured knee and a wheelchair, must be incorporated into her daily sleep practice. Eva, therefore, has established and keeps re-establishing her own rhythm based on her body.

Eva has a routine of turning off the television every night at exactly 10:00 PM, putting on her robe, and sitting in the kitchen where she plays solitaire and listens to the radio while drinking a beer and smoking a cigarette. She finds this routine relaxing and, in her view, this is precisely what helps her sleep well. Thus, she does not view it as something the hospital needs to interfere with or that necessitates any type of intervention in relation to rehabilitation. She feels provoked when, for example, the hospital asks about her alcohol consumption: "Yes, and when it's 10:00 PM, I drink a beer. And they stand there looking at me like it's so cheeky of me to say that."

In Eva's case, sleep is rather unproblematic and something that does not require any type of intervention. Not being able to sleep once in a while is not a cause for any concern or irritation, nor is it necessarily indicative of missing out on something valuable. She sees sleep as something that has a life of its own and is not something to be controlled. The same applies to her approach to the body as a condition that is as it is. As such, agency does not center in the body as a potential that can be fulfilled through the 'proper' strategy in Eva's own sleep engagement.

*Effective relations across medical and everyday categories*

Arranging her everyday life based on the health conditions she has—and thereby not articulating them as limitations or complaining about them—is a form of self-preservation that is part of Eva’s explanation of why she manages well. Not only has she always wanted to take care of everything on her own, but she also believed that she could. She thinks this stems from her childhood, growing up as the eldest daughter with three younger brothers. Because her mother was ill and often hospitalized, she was almost like a mother to the others. Additionally, she helped her father with finances.

When she had hip replacement surgery a few years prior to our interviews, Eva explained that she was not offered rehabilitation. She enjoyed a good post-surgical outcome and her ability to handle things on her own and in her own way becomes her explanation of the good outcome. She compared her own patient trajectory with that of a friend who had received rehabilitation offered through her municipality after the same type of hip operation. Eva concluded that her own outcome was better than if she had participated in municipal rehabilitation: “When she [Eva’s friend] was still walking very badly, I was walking really well.”

Eva did not adhere to the hospital approach to managing rehabilitation, which is illustrated by the following excerpt from the field notes after a conversation with Eva during her hospitalization. At that time, Eva was close to being discharged, and she drew upon the positive experience of doing things her own way: “Now it’s about me,” she says. I wonder what she thinks it has been about so far. I ask her. She has difficulty explaining it, she says, but makes a movement with her arms as if she is pushing something away. Now she just wants to get out, she says, and do her own thing.”

Eva’s practice is a matter of what she thinks will improve her life as it is now, but the fieldnote indicates that this is not what she finds the institutional instructions addressed to her to necessarily be about. Eva does not try to change her body, but with actions and everyday rhythms and routines, she adapts her environment to her body. In this way, she builds the capacity to create effective relations or new arrangements in her everyday life. She creates rehabilitation through effective relations motivated by self-confidence—this is a subjectivity that is strengthening engagement in a de-territorialization (Deleuze and Guattari 2005) of a medical discourse on sleep management. Prescribed sleep management of not drinking and smoking in the evening becomes, on the contrary, a constraint for the capacity to create effective relations; this is why Eva sticks to her own ways of organizing sleep. One may say that Eva enacts the concepts of independency and responsibility for her own situation, representing the socially affirmative relations and norms concerning patient engagement as presented initially. The enactment of independency and responsibility provides Eva with an opportunity to re-territorialize (Deleuze and Guattari 2005) her body in the medical discourse on rehabilitation. However, this re-territorialization is also a process through which she simultaneously confirms her sleep through medical-related ideals of sleep. Even if she defies health recommendations by maintaining her practice of smoking and drinking alcohol in the evening, Eva as well argues for these habits as relaxation, which medical discourses recognize as being conducive to sleep quality and uninterrupted sleep.

Sleeping through the night is also a standard to which Eva adheres. Although sleep is something that Eva just does and does not immediately experience as a matter of concern or special interventions, she also finds that she is sometimes overpowered by sleep during the day, as she told me during the third visit. She characterized this as involuntary sleep and problematized it. For her, sleep and everyday life are structured according to certain set times. With calm and contemplation, Eva’s evening ritual in the kitchen lasts for approximately two hours, which is why she goes to bed at 12:00 AM and perhaps reads a little. Even if she goes to bed at 12:00 or 1:00 AM, she gets up early at 6:00 AM. She again sits and

enjoys the quiet; she has a cup of coffee in the kitchen and eats some breakfast. She sits there until around 9:00 AM, after which she gets dressed if she needs to go into town; otherwise, she sits in the kitchen until 12:00 PM. She does not only sit there because she thinks it is nice—she specifically sits in her kitchen chair to avoid falling asleep. She waits until 12:00 PM before she goes into the living room, where she eats lunch and later dinner in her recliner in front of the television. However, she often falls asleep here after eating, which makes her extremely unhappy. She does not think it can be good for her to sleep so much over the course of the day. Thus, the qualitative time-space she practices early in the morning and late in the evening does not give her many hours during which to sleep she nonetheless thinks there must be something wrong since she just falls asleep throughout the day, against her will. Therefore, she wants to speak to her doctor about it.

For Eva, sleep is concomitantly unproblematic and problematic. It is something that is as it is and not subject to control but, nonetheless, it becomes problematic when it occurs during the day. Eva's sleep engagement can be seen as a de-territorialization of the body from medical discourses that promote sleep as a health practice and through which the body can be optimized. However, sleep during the day is pathologized by Eva, as also represented through the sleep-hygiene rules in which napping is something to be restricted. The midday nap is represented through her perspective as an outdated category connected to 'elderly people'. As such, medical concepts of sleep might reject a concept of aging associated with daytime napping affecting Evas identification and concerns.

The following sleep engagement is an example of explicitly disassociating oneself from the image of aging linked to being more tired.

### **Sten's Narrative: "No, no, I don't use it at all. I don't use it at all"**

Sten, age 78, underwent two hip replacement surgeries a few months apart. He has also lived for many years with back pain due to a sports injury and later hip pain as a result of osteoarthritis. Because of this pain, he has had to reconfigure his life in several ways. For example, he had to stop participating in sports, which had been a very important part of his life, he had to move from a house with a garden to an apartment in town, he had to take pain-relieving medication for many years, and he had to reduce his travel activity. Unlike Eva, who acts with her body as an everyday barometer against which she coordinates her activity, Sten has more difficulty accepting that his life is changing because of his body.

#### *Sten's rehabilitable and potential body*

Sten is used to being able to achieve the goals he sets for himself by adopting the right approach and mindset. He nearly lives by the motto of 'control and discipline.' For example, he told me during the third visit: "I'm probably one of those people who, if you make a decision, then it tends to apply to every other thing in life as well. Everything else is just nonsense," and "There are two types of people, those who get moved around and those who move others around. And you can decide which type you want to be." Unlike Eva, the bodily changes for Sten are not merely an accepted development that determines what shape life can take, even if he says, "And then you try to get the most possible out of it (life with bodily changes) in some other way, but it's still difficult, isn't it?"

Two hip-replacement procedures have strengthened Sten's approach to control and discipline. He talks about an active life filled with sports, travel, and professional responsibilities, but that is now changing because of bodily changes, which are significant consequences not only to him but also to his family. One experience in particular "broke" him, as he told me in an interview. He recounted the time when he had to interrupt a vacation because he could not walk around. The experience he described is full of guilt and shame towards his family, who had arranged the trip. This guilt can be related to a sense of

not having done what was planned, doing too much, or doing it the wrong way. He said, “I’ve played handball, football, and table tennis, and I have been on Zealand’s [a region in Denmark] premier teams in both handball and football. But, on the other hand, this is perhaps also the type of thing that contributed to the deterioration [of my joints].” As a result, he indicated that he is personally responsible for the way his body is today and that he had failed to maintain his health competence (Fristrup and Munksgaard 2009). By doing so, he deprived himself and his family of some opportunities. In this sense, Sten positions physical decline as something shameful.

However, in relation to his two hip-replacement procedures, Sten realized that doing exercises at home, with which he is highly disciplined, in combination with participating on the municipal physiotherapeutic rehabilitation team for patients who have undergone hip surgery, have given him a new opportunity for control—particularly control over his body through muscle-building. He remarked, “The thing I think is important is to keep your muscles fit, so you don’t just fall apart and think, ‘Well, I don’t give a damn about this anymore.’” He suggested that his efforts were useful, which is why he wants to continue with daily strength-training for the rest of his life: “I would like to go as far as I can with this, and there’s no doubt that exercise is something I will do for the rest of my life. . . . there’s no reason to believe that when you get old, or very old, that you can just say ‘That’s fine enough.’ . . . No! It’s exercise once a day at a minimum.” With this, Sten also indicated that becoming older and weaker is not an excuse to ‘take it easy’ and to withdraw from engaging in optimizing one’s possibilities as a potential for agency he locates in the body—for Sten, this engagement with exercising is forever. Sten identifies with the responsibility that has been institutionally assigned to him through the patient trajectory—a responsibility that involves taking the initiative for activity as an institutional category of practice that is related to optimization of the body. At a pre-surgery joint seminar, the surgeon Jens explained to those to be operated: “The bed is a dangerous place—get out of it. The studies show the sooner, the better.” Like this surgeon, Sten identified the bed as a threat: “It can’t do any good to just lie there and just say, ‘Now, I’ll just stay in bed’ and so on. That’s not how it is. It’s a question of getting up—it’s about getting up and getting started with these things.” However, Sten underlined a contradiction—it is not only about getting up, as also stated by Marianne the physical therapist at the seminar. She said, “You may become tired, lie down and rest your legs several times a day.” Hence, sleep and rest are conveyed as a central element in hospital discourse on rehabilitation, but it is not merely addressed as a matter of sleeping as well and as much as possible. Rather, it is a matter of coordinating sleep and rest *in the correct way* so as to fully tap sleep’s potential as a tool to improve the patient’s mental and physical capacity in rehabilitation. Although he engages in this rehabilitative concept of sleep potentiality, Sten illustrates how hard it is to succeed.

### *Sten’s sleep management*

It is difficult for Sten to accept that the body determines how life can take shape. He also struggles with accepting that his own body cannot comply with the health-promoting recommendations that he witnesses in his everyday life e.g. through friends and media and through interactions with healthcare that he wants to follow, such as with sleep. He said, “My only problem is that—and this happens to everyone—I have to get up several times at night to use the toilet. It’s a moment of irritation because I never get eight hours of sleep. I get sleep in two-hour increments, you see, and it’s a problem.” According to Sten, eight hours of uninterrupted sleep is the ideal against which he measures his own sleep. Even though Sten experiences the consequences of not getting consecutive hours of sleep (being tired during the day) which irritates him, he does not take a midday nap:

**Sten:** No, I don’t sleep at 12:00 PM. I’ve actually wondered whether I should sleep a little at 12:00 PM, but I never really get to it.

**TL:** Why do you think that might be?

**Sten:** Yes, I could just go in there, but . . . it's not like, I could just go in and take a nap and say, "Now, I'll just lie down for an hour and a half" and then be done with it. It would be easy . . . but then you also want to be able to fall asleep in the evening and sleep through the night, right?

Sten considered a midday nap to be a possibility in his everyday life, but he did not do it because he was afraid of how it might impact his sleep at night. The midday nap, which he actually thought could be necessary, thus became one of several elements that might theoretically disrupt his ability to fall asleep or sleep through the night. As such, the thought of a midday nap had a controlling effect over his actions. Preventing something that *might* be disruptive is an approach that was also mentioned in the interview:

**Sten:** We drink a lot of coffee at home. And we probably drink too much of it, but we've started to drink less at night, I have to admit—much less than we used to.

**TL:** Why do you think that is?

**Sten:** It's just because I heard someone say that we won't be able to sleep at night, so we don't drink coffee—we don't drink coffee after such and such a time.

These preventive actions are not based on personal experience but rather on Sten "hearing someone say" something. Sten changes his actions according to something that may give him sleep-possibilities rather than based on actual experiences of sleeping better if drinking less coffee. In his statement, "We probably drink too much of it," he also refers to the fact that there might be an additional health promotional and rehabilitative potential in drinking less coffee. As such, it becomes something he 'should' do. Similarly, based on the idea of a defined amount of sleep that he should have, Sten thinks that he should prioritize the time at which he goes to bed a little differently.

We actually go to bed rather late; I have to admit. We go to bed between 10:00 PM and 12:00 AM. And 10:00 PM is very early right now, but . . . or it's very early in general, I should say. It's probably between 11:00 PM and 12:00 AM, at some point, when we go to bed. And when it comes down to it, that's probably a little late. It should probably be 11:00 PM, in any case, instead of 12:00 AM.

Paradoxically, Sten was irritated by the fact that his body does not allow itself to be controlled, such as in the case of night-time urination, which interfered with his 'you can get what you want if you work for it' philosophy. He was frustrated by his inability to control his will during the night. Thus, it was a dilemma for him that, following his hospital discharge, his legs needed rest throughout the day when activity was the very thing that he considered important to do. He illustrated this dilemma in the following quote, in which he sarcastically emphasized the first part of the sentence and—with a sense of acknowledgment—inflected the last part, saying, "Even if I fully know they (healthcare professionals) say, 'Just get moving, just get moving' (sarcasm), it's all about just getting moving (recognition)." With this, Sten both disassociated from and acknowledged the expectation of activity in his patient trajectory.

### *Effective relations: Across normative and medical categories*

At the joint pre-surgery patient seminar, the physical therapist Marianne emphasized an increased need for sleep and rest in rehabilitation, while simultaneously suggesting that they must be carefully balanced by standardizing the increased need for sleep that an operation produces: "You will get exhausted and have an off-day where you might not be able to exercise three times a day, but only



twice. Then it gets better the following day.” In her view, an increased need for sleep is not an obstacle to a training opportunity—in any case, there might just be a single day when the training can only be done twice instead of three times. Yet, she stressed that after this little break one will bounce back and be able to perform optimal training again. There appears to be an implicit concern that orthopedic-surgery patients see themselves as sick and associated with having to stay in bed and get a lot of rest, which is why an increased need for sleep is recognized but at the same time emphasized by healthcare professionals as something to be minimized.

Sten’s narrative illustrates the dual nature that is embedded in sleep as a potential homework assignment in post-operative rehabilitation.

Sleep is an individual bodily event and biological force. When placed into a rehabilitative management context connected to medical concerns of recovery, sleep is expected to be practiced and controlled in ‘the right way,’ with the promise to achieve health-promoting potential of the body. This concept of potentiality can be examined through a health-policy lens. Here, the patient’s rehabilitative change process should lead to an improved level of bodily functioning that allows for active agency and independence. Independence is precisely the objective Sten hopes to achieve; he would like to postpone or avoid having other people “take over,” as he told me. The body becomes the means for this independence, which is why the body needs to be controlled. Resting during the day can take time from the most important thing—*activity*—which can be seen as a lack of will or control, and perhaps even be associated with laziness. In the following interview excerpt, Sten rejected the midday nap and he emphasized the idea that a midday nap is something he can choose to forego.

**Sten:** No, no, I don’t need the nap at all. I don’t need it at all. It’s true that right when I came home [after hospital discharge], then it was really nice to lay down to sleep for an hour or so. That’s over with now. That was a long, long time ago.

**TL:** It’s not something you used to do in your normal everyday life before the surgery, either?

**Sten:** No, no—I could have done it if it were necessary, but it wasn’t like that. Not anymore. That’s over with.

While Eva associates daytime sleep with the notion that something is medically wrong, for Sten, daytime sleep is perhaps associated with laziness and is thus something that one can choose. According to Sten, daytime sleep is almost something that can only be legitimized through illness and daytime sleep is something Sten chooses to distance himself from when it is no longer a question of having recently undergone an operation or being affected by complications such as diarrhea due to analgesic treatment, which left him very exhausted for a week after the operation. In this example, another dual nature regarding sleep is mobilized—one in which sleep that does not take place at night is for sick people and, if one is not sick, then sleep is for lazy people.

For Sten, sleep is something that can be optimized—not because ‘a good night’s sleep’ is a goal in its own right, but because it can become a means to something else, such as preventing disease. Sleep can also support his ability to exercise and therefore prevent decline, which can lead to being able to maintain or improve his independence. Routines and arrangements are therefore established in another way—in order to make the best possible conditions for sleep. For example, Sten avoided watching nighttime television shows that might have an emotional impact on him. If he needed to get up during the night, he used a flashlight so that a more intense light would not wake him up too much. The key point is that Sten’s sleep was planned in advance—unlike Eva, for whom sleep was something that simply is and was unproblematic. In Sten’s case, however, sleep was something to be protected and



promoted through control and discipline. With his sleep engagement, Sten enacts a notion of potentiality also represented in medical discourses of rehabilitation in which control and discipline enable a person to shape their body and strengthen independency. Engaging in a bodily optimization with the promise of independency Sten builds relational capacity. But, at the same time, these engagements frustrated him because his body disrupted his plans for what he wants, and he consequently felt guilty when it was not possible for him to engage in certain activities. He also felt frustrated when he had to adhere to conflicting rehabilitative logics about both training and sleep and rest. In this way, sleep as a medical defined homework assignment and potential may both close and open Sten's capacity to form effective relations that mobilize resources in his everyday life.

In the following case, we illustrate how the physical changes generated by disease and/or trauma neither can be included as a part of an obvious and everyday engagement or as an engagement in which sleep takes place as a rehabilitative potential that can be managed. Here, the non-rehabilitable body is created, but sleep is also included in an effective relation that is a matter of preserving authority in repudiation of institutional requirements performed by both hospital and the municipal services and standards for health behavior.

### **Henning's Narrative: "This is not for us"**

Henning, age 72, was hospitalized in the acute orthopedic unit for a week after breaking his pelvis. Against medical advice, Henning discharged himself from the hospital early, and he did not want to go to a specialized centers for respite care because he could not afford to go there and because his wife could not join him. Henning's general weakness and pain after hospitalization and recovery for his pelvic fracture made him extremely tired, and he slept frequently following his discharge. Municipal services supporting him in the home after discharge installed a hospital bed in his home, so he could get into bed on his own and avoided disturbing his wife Connie, when getting up at night to urinate. However, at the time of our interview, the municipality had removed the hospital bed from his home why he was sleeping on the sofa in the living room. According to Henning, the reasons why the municipal service retrieved the bed and other kinds of equipment were because the municipal authorities did not believe that he still demonstrated a need for these assistive devices since he was not complying with the hospital's recommendations. He gave the example, that he was walking around even though the hospital staff told him to try not to support his own weight until six weeks after surgery. However, he was walking because he experienced he was capable of doing so why he also suspected the healthcare professionals of imposing on him unnecessary restrictions as an act of power.

#### *Henning's non-rehabilitable and non-potential body*

Even though Henning and Connie took midday naps together every day at fixed times, sleep was not a delimited event in Henning's life after hospital discharge—instead, it was rather fluid. He spent most of the time on the sofa in the living room, drifting in and out of sleep. Eight months after discharge, sleep was still something that filled much of his everyday life, especially because he was bothered by abdominal pain and chronic lower-intestinal disease, the symptoms of which worsened after his orthopedic hospitalization.

Regarding the sleep-hygiene rules, Connie told me: "This is not for us." With this, she meant that their various chronic disorders—such as diabetes, COPD, osteoporosis, lower-intestinal disease, and complications after hip and pelvic fractures—would prevent them both from practicing the health-promoting sleep hygiene rules regarding exercise, fresh air, no napping (or only very briefly), no eating before bedtime, etc. With these sleep rules, sleep becomes a potential for health—but, as Henning and Connie saw it, they are only for people who are already healthy. She problematized what psychologist

Niels Christian Nickelsen has also problematized; i.e., standards are attached to concepts of normality that create order for those with standardized—or here, *potential*—bodies, yet they create problems and exclude others with non-standardized or non-potential bodies (Nickelsen 2008).

### *Henning's sleep management*

For Henning, sleep was neither something that is just figured in as a balanced part of everyday life like it was for Eva, nor was it something that he problematized as such. Sleep was also not something he could organize into a rehabilitative-potential perspective, defined by medical and institutional rationale—rather, it was something to which he must surrender in a bodily sense, day and night. Sleep also proved to be an accessible strategy Henning used to 'check out' whenever something became unpleasant or difficult. Whether it was pain, arguments with Connie, or when the demands of the municipal services or hospital were difficult to fulfill, Henning explained:

**Henning:** I'm more tired now. I'm more tired. I don't do much, and if I were to lie down now, I could easily sleep until 3:00 PM, and it wouldn't bother me a damn bit.

**TL:** But you don't do it, or . . . ?

**H:** Yes, I might definitely do it. Once you've left, that is.

**Connie:** Or, let me put it a bit differently. If there is anything bothering him, then I have to deal with it, and he just lies there, and then drifts off . . .

**H:** Yes, I just lie down. I don't like to argue, so I just lie down and sleep, and then you all can just disappear.

For Henning, there is also a social potential in sleep as the possibility to escape both private and institutional demands.

### *Effective relations: A de-territorialization of medical and institutional categories*

Several times during our interviews, Henning circled back to the importance of making his own decisions. He kept on top of patient law, about which he also advised his neighbors and referred to terms such as "self-functional," he said:

As long as we do not present a risk to others or ourselves. And we aren't – we get the food and care that we need. We're not a danger to ourselves or others when we can manage ourselves, so we are self-functional. We can handle it ourselves. So, people are actually allowed to say, "No, thank you." . . . It's what the law says today, and that's what we choose. They cannot make decisions for me—not when I'm self-functional.

Although it is Henning's legal right to opt-out of hospital- and municipal recommendations and offers, he found it strange that opting out can have consequences. For example, he was convinced that the hospital did not want him to come in for a follow-up X-ray of his pelvic fracture because he had discharged himself against their recommendation.

For Henning, sleep is something that just happens and to which he has to surrender, but it also becomes a conscious way of distancing himself from institutional requirements and other difficulties he experiences in his life. Therefore, it can perhaps be seen as though he is not engaged in forming relations with the world. But, on the other hand, this sleep practice can also be seen as a re-territorialization through an engagement that can realize self-determination and where power over the body is reclaimed from state and municipal institutions. The modes of ordering creating a medical pedagogy of sleep that requires a special form of engagement deprives Henning of the opportunity to legitimate his actions,

and the hospital and municipal requirements thereby obstruct his ability to create effective relations. Sleep as something one can tighten down through control or change through one's evening routines is not an option. Hennings sleep practice cannot be formed to the medical notion of active engagement with the potential to optimize the body and hereby give him independency. But, at the same time, sleep becomes an effective relation that, like a body-based resistance and position allowing for self-authority. The desire that guides Henning to build relational capacity thus becomes authority or integrity (Bakken 2020), and an option of de-territorialization of the medical logic; for him, it is a connection that does mobilize agency. Henning cannot optimize his body, it is non-potential from a medical perspective. With the notion of ability proposed by among other Ingunn Moser, this non-potential body gives him fewer possibilities of action and of participation, however, Henning creates a body of resistance destabilizing an institutionally sanctioned subjectivity of the 'good patient.'

### **Effective Relations and Becoming Subject**

The three sleep engagements we have described in this article point to the different ways in which effective relations are created, and how they are mobilized (or not) by the institutional expectations of sleep as an ideological practice and homework assignment in post-operative rehabilitation.

Referring to sociologist Pierre Bourdieu's concept of habitus, Buch argues that humans have different embodied dispositions created through different backgrounds and generational histories (Buch 2018). The consequence of embodiment connected to ideological practices formed through modes of ordering is that, when those from non-dominant groups fail to embody the habitus of more powerful groups, embodiment is used to justify their disadvantage and exclude them from opportunity (Buch 2018). Our analysis here suggests that rehabilitation is formed as a biomedical neoliberal practice as the ideological practice that creates different bodies and thus different opportunities for inclusion in the subject position of 'engaged patient and responsible citizen,' which is linked to full social participation. Our analysis also indicates that some patients, through their engagement, must free themselves from these subjectifying forces and power structures in order to create effective relations. Through this process of de-territorialization, patients create new bodies, as the everyday body and the body of resistance, and new forms of social participation. In doing so, they destabilize the medical/institutional category of engagement (Deleuze 1994; Deleuze and Guattari 2005).

The first sleep engagement (Eva's case) illustrates how sleep and the body are included in an everyday relation with built-in distance to medical and institutional categories. But, at the same time, it is an engagement that simultaneously draws upon medical concepts—not only in conjunction with its legitimization but also its problematization. The other two sleep engagements (Sten and Henning's cases) characterize engagements that, each in their own way, differ from Eva's sleep engagement. In Sten's sleep engagement, sleep and the body are directly connected to medical categories of sleep as rehabilitative potential, while in Henning's sleep engagement, sleep becomes a means of de-territorializing the body from the medical rehabilitative potential.

Throughout these three different sleep engagements, bodies come into being in the relation between everyday life and medical and institutional categories as well as through the individual's embodied biographical practices. Therefore, the ways in which these changed bodies are incorporated in the formation of relations also differs. In Eva's everyday life, the body becomes one of the structuring forces that she does not consider to be beholden to institutional norms of sleep while, in contrast, Sten's body must comply with the requirements; he assumes the regimen of the body and sleep as potential. Henning's body becomes a 'non-rehabilitable and non-potential body' that cannot be directed and thereby optimized by a choice to do something in another way with regard to rehabilitative notions of

controlling sleep. In contrast, Sten's rehabilitable and potential body can make napping something he can choose, and allow him to regulate eating or drinking if he wants, in order to sleep better. Henning's body cannot be adapted to the environment at all, as Eva's everyday body can, and still preserve the temporality of everyday life as she knows it. The non-rehabilitable and non-potential body cannot be directed. Through his non-rehabilitable body, Henning's self-determination is consolidated in his encounters with the healthcare and municipal systems and, for him, sleep becomes an opportunity to preserve authority as a biographical force that guides his ability to create relations with the surrounding world. Henning's sleep engagement mobilizes resources in everyday life but in a very different way than in the other two sleep engagements.

Elena Buch emphasizes, as we also suggest here, that "embodiment is ongoing across the life course, as people engage in intertwined biological, environmental, and social processes" (2018, 133). She calls embodiment, "bodily continuity" (Buch 2018), which refers to both the present and the past. Based on the concept of engagement that we have described here with reference to Deleuze and Guattari, rehabilitation is about creating effective relations, and that which is effective is tied to—but not determined by—the embodied dispositions and bodily continuity. We demonstrate that creating effective relations, therefore, does not become an issue that can be defined by the degree to which the knee can bend but rather by the degree of disrupted continuity and new acquisition. Acquisition is not dependent on the body 'regaining' its former physical form (Buch 2018), but it requires a body that, in its transformation, can create new relations with its surroundings, and in which the person can recognize him or herself and thus everyday life.

What is essential to focus on in these three engagements is that sleep occurs as an effect of the various and embodied biographical ways that people are included in relations with their environments, which is why sleep and the potential embedded in it must first and foremost be seen as connected to a long life and then to a patient trajectory. This analysis suggests that what directs the formation of these relations has its own biography/historicity but a biography/historicity that is also created through institutional categories. We see these institutional categories enacted through the patients' affirmations, re- and deterritorializations. In different ways, Eva, Sten, and Henning incorporate the institutional dichotomies of active and passive engagement into the way they connect sleep, health, and aging. Both Eva and Sten associate daytime sleep to a notion of passivity, and the opposite, activity, becomes, for Eva and Sten, either a right or a duty. When Eva is unwillingly overpowered by sleep during the day, it prevents her from being the active person she identifies with. To her, daytime sleep becomes a medical concern and not a natural part of aging. For Sten, staying active and not giving in to daytime sleep is a choice. It is also a matter of moral engagement in his recovery trajectory because he can demonstrate that he is not being a "passive citizen" (Mikkelsen 2019); he does not give in to sleep but keeps on working to improve his musculoskeletal system which cannot be done while sleeping. Through their different discursive-material sleep practices, we argue that Sten and Eva subjectify to the discursive context of health as active aging. From a medical perspective, Henning enacts sleep as a passive form of engagement in relation to going to sleep when demands are put on him opposed to a notion of actively engaging with them. However, for Henning this enactment is a way to resist this normative and unequal understanding of engagement as either active or passive or potential or non-potential and of this being a choice or something he lacks motivation to do; as such, this sleep-practice can be characterized as a political act (Mikkelsen 2019) that demonstrate that he doesn't subjectify to this concept.

When Sten's sleep engagement matches institutional expectations, it is because his approach to practicing sleep corresponds to the way he is historically directed through changes. The historical practice of disciplining himself and working hard to enable himself to remain in control of the situation he has confirmed to be effective throughout his patient trajectory. The same thing may also apply to

Henning. The institutional categories of sleep as a homework assignment and potential reinforces his lack of opportunity to legitimize his body and his practices. On the other hand, Henning's sleep engagement acts as a retaliation to the institutional approach; here, as a desire that directs his engagement, his authority is preserved. Our analysis of 'becoming subject' thus demonstrates how we live "alongside, through, and despite the profoundly constraining effects of social, structural, and material forces, which are themselves plastic" (Biehl and Locke 2017, Foreword, X). As these sleep-engagements show is that how - and by what they are directed is an enactment of biographical forces, not understood as definitive, that themselves are effects of social, structural and material forces affecting the building of new arrangements. With this perspective on rehabilitation, we cannot make a linear cause-effect explanation, as represented through biomedicine, of how the building of new arrangements are mobilized or what they should be constituted of.

## Conclusion

Sleep is increasingly addressed by media, consumer markets, and through healthcare interventions as a matter of concern regarding health and prevention of disease. In institutional rehabilitation practices, sleep becomes a homework assignment based on an idea of sleep as a particular type of potential. This movement makes sleep a rehabilitative task with an integral rehabilitative potential that patients are expected to achieve through the correct behavior, coupling sleep with patient engagement in post-operative rehabilitation. In this article, we consider sleep as an activity that, through the recovery trajectory after orthopedic surgery, is instrumentalized and transformed into rehabilitative homework in which the conditions for optimal rehabilitation can be fulfilled. The institutional concept of sleep potential connects sleep to a concept of passive and active engagement. However, drawing upon Deleuze and Guattari's (1994, 2005) concept of engagement, we find that the patients in this study cannot be viewed as passive and predetermined. Our analysis suggests how patients' sleep practices are always an active and motivated socio-material engagement in creating effective relations that, in various ways, serve to mobilize resources in everyday life.

However, these relations are also influenced by biomedical health categories co-creating institutional categories of engagement and potentiality. These categories create different types of bodies and agencies—for some patients, these categories have a conducive effect with respect to creating effective relations while, for others, it has the opposite effect. Although it is stated in this article that patients' sleep practices are always an active engagement in creating effective relations the way arrangements are made possible and the way in which the elements are linked to one another do not always correspond with institutional expectations of mobilizing forces. However, living up to institutional expectations for what it means to be an engaged patient can be followed by shame and a guilty conscience, as seen in Sten's case, or by retaliation with exclusion as a consequence, as seen in Henning's case. However, another position emerges that can both present an opportunity for self-recognition through practices and the fulfillment of institutional categories, as was the case for Eva. With a relational perspective on post-operative rehabilitation and engagement, sleep as a homework assignment can be seen as a type of becoming that opens up possibilities for action—but perhaps not always the kind of action that fulfills institutional expectations.

## Notes

1. With the concept of sleep as a practice, we include 'resting.' One can rest without sleeping, but these two practices often flow into each other and are difficult to separate. When patient engagement is considered to be 'not active enough,' rest and sleep are often put together in one category.



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