

A CHAIR IS A CHAIR... UNTIL IT ISN'T

What Changes When a Dining Chair Becomes Part of Providing Care?

Mealtime Safety, Caregiver Ergonomics, Dignity and the Dining Environment

BY RANDY SCHELLENBERG

Executive Summary

Helping another person with a dining chair is one of the most familiar gestures associated with mealtime. Someone pulls the chair away from the table, waits while the person sits and then slides the chair into position. In ordinary circumstances, the gesture is associated with courtesy, hospitality and even chivalry. It's akin to opening and holding a door for someone to enter/pass by.

For an **independently mobile person**, that description is appropriate. The individual controls their own body, turns, lowers themselves into the chair, adjusts their position and contributes to moving themselves toward the table. The person provides the mobility while the chair provides stability.

The situation changes when the person's mobility declines requiring **dependent care**. Turning becomes difficult. Stepping backward becomes uncertain. The table interferes with access to the chair arms. Once seated, the person no longer has the strength or coordination to position themselves at the table. At the end of the meal, that same person is unable to move themselves far enough away from the table to stand and exit safely.

The chair has not changed, but the way it is being used has. A second person is required to supply some or all of the movement.

Dependant care mealtime seating therefore needs to be examined as an environmental system involving the person receiving assistance, the caregiver, the chair, the table, the flooring, the physical space and the care process.

The purpose of this paper is to examine the role of the dining chair throughout the complete mealtime seating cycle and identify opportunities for better solutions.

A chair is a chair—until it becomes an integral part of providing care.

1. A Familiar Activity Viewed from Behind the Chair

Helping another person with a dining chair seems almost too ordinary to examine. The chair is pulled back, the person sits and the chair is moved toward the table. Because the activity is so familiar, it is usually interpreted as courtesy rather than physical handling.

That interpretation is appropriate when the person remains independently mobile and provides most of the movement themselves.

In dependent care, when mobility declines, the task changes. The person now requires assistance not simply with the chair, but through the chair. What looks like the same familiar gesture involves a substantially different level of physical assistance.

The dining room also looks different depending on where one stands. From the front, attention is drawn to the food, décor, conversation and people participating in the meal. In a care environment, this sense of normality matters. The dining table remains one of the places where everyday life continues to feel familiar.



From behind the chair, a different part of the experience becomes visible. This is where the caregiver often stands when assistance is required. The table restricts access to the person being seated, the chair arms are partly hidden beneath the table, and a person with reduced mobility is required to turn, step backward or shuffle sideways into a confined space.

Once the person is seated, the caregiver still needs to PUSH/move the occupied chair into position. At the end of the meal, the caregiver must PULL/reverse the process and create enough room for the person to stand and leave.

From the front, we see the meal. From behind the chair, we see the care process required to make that meal possible.

2. The Conventional Dining Chair Has a Job—and Does It Well

The familiar four-legged dining chair is not a failed design. Millions are manufactured and used successfully every day.

Its design is based on a simple relationship: **the chair provides stability and the person provides mobility**. An independently mobile individual approaches the chair, pulls it away from the table, turns, sits, adjusts their position, moves toward the table and later reverses the process.

Within Dining Chair Classification System terminology, this conventional chair is described as **Class A—Independent Use**.^[1] The designation is descriptive, not critical. A conventional dining chair performs extremely well when the person using it can operate it independently.

What it does not provide is assistance with reducing table interference, improving access to support surfaces, repositioning an occupied chair or moving an occupied chair far enough away from the table to allow safe standing and exit. Those functions were not part of its original design brief.

The relevant question is therefore not what is wrong with the conventional dining chair. It is what changes when a chair designed for independent living becomes part of the dependant care process.

3. Mealtime Assistance Has Three Distinct Stages

Dependent care seating at a dining table is often treated as a single activity. In practice, the complete seating cycle contains three different stages, each placing different demands on the person, caregiver, chair and surrounding environment.

3.1 The first stage is becoming seated. The person is standing and must safely approach, enter and settle into the chair. At this stage, fall prevention is the dominant concern.

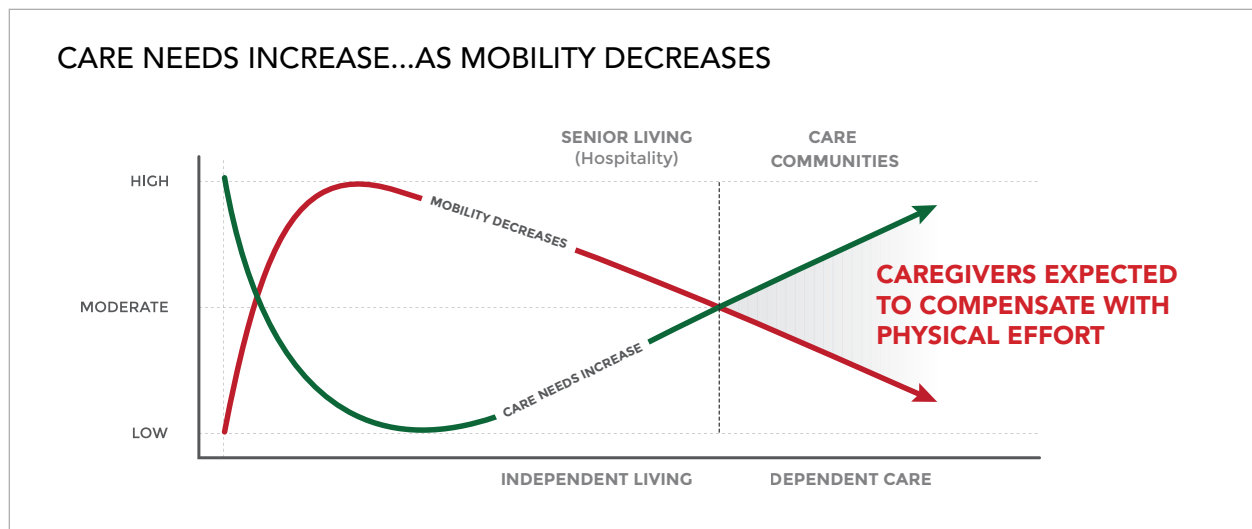
Before the person sits, they remain standing. For someone whose balance, strength, coordination, vision or confidence has declined, this is the most vulnerable part of the seating process.

After the caregiver pulls the chair slightly away from the table, the person being seated is required to approach the chair, enter a narrowing space, turn, step backward, shuffle sideways, locate the chair behind them, find chair arms that are partially obstructed and control their balance while lowering themselves.

For a person with reduced mobility, getting seated safely is not merely preparation for the meal. It is itself a fall-prevention activity.

3.2 The second stage is becoming positioned at the table. The person is seated but is unable to move themselves close enough to the table to participate comfortably in the meal. Caregiver ergonomics, physical demand and dignity become increasingly important.

In dependent care settings, the caregiver supplies the muscle. This involves pushing from behind, pulling from the side, rocking the chair to initiate movement or repeatedly adjusting the chair until the person reaches the table.



What appears to be a simple act of moving a chair has become a manual task involving a seated person. When a dependent care individual can no longer provide the required movement, that requirement does not disappear. Under the conventional process, it is transferred to the caregiver.

Repeated often enough, this becomes normal. **Is it any wonder that caregivers feel more like "hired muscle" than givers-of-care?**

3.3 The third stage is moving away from the table and exiting the chair. The person must be moved far enough from the table to stand safely, gain access to assisted

mobility devices and leave without colliding with the table or being forced into another restricted movement.

This is rarely discussed because it appears to be simple: the meal is finished, the chair moves away from the table and the person stands.

For a person requiring dependent care, someone else must again provide the movement.

The occupied chair must first be moved far enough backward to allow the person to stand without contacting the table. With a conventional four-legged chair, this requires the caregiver to pull the combined chair-and-person load across the floor.

Recognizing the difficulty of this movement, the chair is pulled only far enough away from the table to reach one of its arms. The caregiver then pulls on the arm to rotate the occupied chair to face away from the table. This creates the clearance required for the seated person to stand and walk away without encountering the table.

Repeated over time, this movement contributes to several recognizable consequences. Chair arms and joints loosen or fail. Frames are subjected to forces beyond ordinary seated use. Chair legs or glides scrub and pivot against the floor, contributing to concentrated wear, tears and holes. At the same time, the caregiver is twisting and controlling a substantial occupied load.

These stages create different and sometimes competing requirements. During the first and third stages, the chair must be stable while the person transfers weight into or out of it. During the second stage, controlled movement reduces the amount of physical effort required from the caregiver. During the third stage, sufficient movement is again required before the person can safely stand.

A successful solution must therefore consider the complete cycle. Improving one stage while making another more difficult simply transfers the problem.

4. Dignity Is Part of the Entire Seating Cycle

The physical demand on the caregiver is only one part of the issue. The experience of the person receiving assistance must also be considered throughout all three stages.

A dependent care person does not want to become the centre of attention while

being seated or positioned for a meal. They do not want someone visibly struggling to move them or to experience their chair being rocked, pulled or twisted while they are sitting in it. The same applies when the meal is finished. Leaving the table should not become another conspicuous handling event.



Most people simply want to become seated, participate in the meal and leave with as little unnecessary attention as possible.

Dignity therefore involves more than the appearance of the chair. It also involves how assistance is provided and experienced. Predictability matters. Gentleness matters. The direction from which assistance is offered matters. The ability to participate without becoming an event matters.

The objective should be to help the person complete the entire seating cycle safely and respectfully, with no more physical intervention than necessary.

5. Solving One Problem Can Create Another

The need to examine the whole environment becomes especially clear when considering common interventions.

A fixed four-legged chair provides excellent stability during sitting and standing. Once occupied, however, it requires significant physical effort to reposition. A freely rolling chair reduces movement resistance, but uncontrolled movement is undesirable when a person depends on the chair for support. Four-caster dinette chairs and task chairs demonstrate that making a chair easy to move is not technically difficult. The challenge is providing movement when movement is required while preserving stability when stability is essential.

Front casters provide another example. For an independently mobile person, they reduce resistance when moving the chair forward themselves. In dependent care, the same feature encourages the caregiver to lift or unload the rear of an occupied chair in an effort to make use of the front wheels. A feature suited to one application, causes structural damage to both the chair and the floor when used as a mobility aided design.

Flooring also illustrates the trade-off. Resilient or cushioned flooring is selected partly because of its potential to reduce the consequences of a fall. At the same time, a loaded chair leg or glide deforms the surface beneath it. That increases resistance during positioning and contributes to concentrated floor damage when an occupied chair is turned at 90 degrees. This does not make flooring substandard, it simply demonstrates that the floor serves more than one function within the care environment.

Caregiver training improves technique, but it cannot eliminate the mass of the person, floor resistance or the geometry of the task. Wheelchairs provide purpose-built mobility and are essential for many individuals, but not every person requiring assistance at the dining table desires a wheelchair as their primary seating solution. Many seniors consider the wheelchair to be one appliance before the gurney!

Each intervention solves something. Each also affects something else. Improvements should therefore be evaluated not only by the problem they solve, but also by the consequences they create elsewhere in the seating cycle.

6. The Environment as the Unit of Analysis

Mealtime seating is better understood as a system rather than as a collection of separate products and tasks.

The system includes the person receiving assistance, whose abilities determine which movements remain possible; the caregiver, whose posture, reach and repeated physical effort affect how assistance is provided; the chair, which contributes stability, geometry and resistance to movement; the table, which either facilitates or restricts access; and the flooring, which affects both stability and the force required to move a load.

Physical space, workflow and time also matter. Adequate clearance affects whether the person and caregiver can move appropriately. Several people can require assistance at the same time, while caregivers manage competing responsibilities during a scheduled meal.

No single factor determines the outcome. The interactions between these factors do.

This changes the focus of the analysis. Rather than asking only how to improve the chair, floor or caregiver technique, the more useful question becomes:

How well does the complete environment support becoming seated, becoming positioned, and safely exiting the table?

7. The Consequences of a Normalized Process

A normalized process still leaves physical evidence.

Dining chairs in dependent care communities require repairs. Was the quality of the chair suspect when purchased? Hardly. The reality is that chairs were never designed to be repeatedly subjected to the combination of vertical, lateral and torsional forces created when an occupied chair is dragged, lifted, rocked and pivoted.

A chair supporting a seated person primarily carries vertical loads. Assisted positioning introduces horizontal loads. Pivoting the occupied chair by its arm introduces lateral and torsional loads through the arm, frame, joints and legs.

Flooring provides another clue. Concentrated wear, indentation, tears or holes around dining tables invites investigation. The pivoting action used to create exit clearance places force through a small number of chair legs or glides as they rotate against the floor. What appears to be isolated flooring damage is also evidence of the repeated movements occurring above it.

Caregiver behavior provides a third clue. If lifting the rear of an occupied chair, pulling backward and twisting a chair by its arm have become accepted parts of mealtime, it is reasonable to ask, **"why the worker's body is supplying the mechanical effort required to complete the process."**

Pushing, pulling, lifting, twisting, reaching and controlling a load are physical activities. The mechanical principles that apply in manufacturing, warehousing and other workplaces do not disappear because the task occurs in a dining room.

Mealtime chair positioning receives less attention than other manual activities because there is often no single heavy lift or obvious injury event. Instead, caregivers perform repeated smaller exertions throughout the day. One pull or awkward twist does not necessarily create an immediate injury, but repetitive exposure accumulates over time.

The repaired chair, damaged flooring, caregiver strain and resident behavior are often

treated as unrelated / isolated issues. They also represent different consequences of the same seating process.

8. Science too, confirms we have a problem

The science behind moving an occupied dining chair is straightforward. Newton's laws tell us that an object at rest remains at rest until sufficient force is applied to move it.

In the dining room, that force must overcome the resistance created by the combined chair and occupant interacting with the floor. Friction, flooring, chair glides, direction of movement and body position all influence how much effort is required.

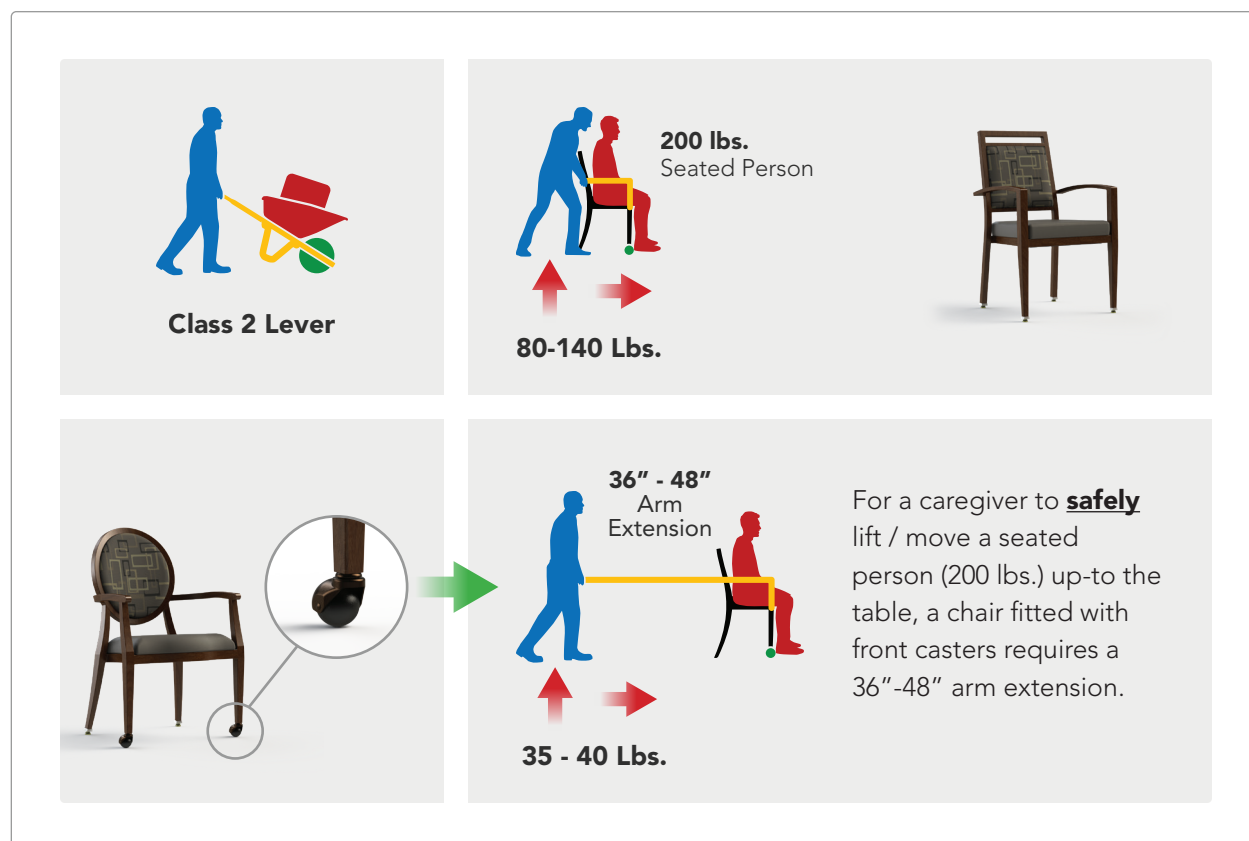
When the seated person can use their feet, shift their weight and contribute to the movement, they provide part of that effort. In dependent care, as mobility decreases, that contribution disappears and the missing effort is transferred to the caregiver. Occupational ergonomics recognizes these same factors—force, friction, posture, direction and repetition—as important considerations when evaluating pushing and pulling tasks.

HOW MUCH PHYSICAL EFFORT CAN A CAREGIVER EXERT SAFELY?

A person can safely LIFT 35 lbs. under normal conditions (no sudden moves or twisting).

A person can safely PUSH up to 20% of their body weight and PULL up to 30% of their body weight.

	LIFT 	PUSH 	PULL 
 140 lbs. CARE STAFF	35 lbs.	28 lbs.	42 lbs.
 200 lbs. CARE STAFF	35 lbs.	40 lbs.	60 lbs.



Class 2 Lever – aka the “wheel barrow” effect. A chair fitted with front casters provides a simple illustration. When the seated person can still contribute, the casters reduce resistance and help them move themselves toward the table.

When that ability is lost, the caregiver must partially lift the rear legs before the front casters can be used to PULL the occupied chair backwards. In mechanical terms, the chair is now behaving as a second-class lever—the same basic principle as a wheelbarrow. Science tells us that mechanical advantage comes from the length of the lever: a wheelbarrow has long handles for precisely this reason; a dining chair does not. The caregiver is being asked to perform a wheelbarrow-like task without the mechanical advantage of extended arms.

9. A Field Observation: When the Process Changed, the Interaction Changed

A memory-care community provides an instructive field observation.

Before making changes to its dining seating, the community documented five to eight mealtime incidents each month involving resident agitation or aggressive responses serious enough to warrant documentation and internal discussion.

The community subsequently introduced dining chairs that changed how residents could become seated and positioned. According to the community's records, documented mealtime incidents fell to zero during the first month and remained at that level for the following years.

This is a single-site field observation and should not be interpreted as proof that a particular chair or mobility feature will eliminate agitation in every memory-care environment.

The more important finding is what the community observed afterward. Staff reviewed how mealtime assistance had previously been provided and recognized that, with conventional fixed dining chairs, caregivers approached from behind and physically pushed or repositioned the occupied chair.

The community concluded that residents experienced these movements as unexpected, uncomfortable or threatening. When the seating process changed, staff no longer relied on the same pushing-from-behind routine to achieve final positioning.

The residents' diagnoses had not changed. The caregivers were still providing care and the meal still needed to occur. What changed was the interaction between the person, caregiver, chair and environment. Caregivers were able to focus on establishing a relationship with each resident instead of concentrating on the physical effort required to reposition them.



The observation raises a broader question: when a person responds negatively during care, are we examining only the person, or are we also examining what the care process is asking that person to experience?

A calmer and more predictable seating process affects not only the person receiving assistance, but also other residents, staff, families and the overall atmosphere of the dining room.

10. Four Objectives and the Opportunity for Better Solutions

When the complete mealtime seating cycle is examined, four broad objectives emerge.

First, the environment should **help prevent falls** while the person is becoming seated and again while standing and exiting. This includes reducing unnecessary backward movement, side shuffling, searching for support and restricted exit paths.

Second, the process should **reduce unnecessary physical demand** whenever the person is unable to provide the required movement. The caregiver's body should not automatically become the mechanism used to overcome the combined resistance of the chair, occupant and floor.

Third, the process should **preserve dignity and self-worth** throughout the entire seating cycle. Assistance should be predictable, respectful and as unobtrusive as reasonably possible.

Finally, improvements must **maintain safety for both people**. A change that benefits the caregiver should not increase risk to the person receiving assistance, and an improvement for the resident should not depend on unnecessary physical risk to the caregiver.

These objectives are more important than any particular mechanism. They define the problem that designers, manufacturers and care providers are attempting to solve.

Once the problem is examined as a system, the range of possible responses becomes much larger. Solutions can involve chair geometry, table design, chair-table integration, orientation-assist seating, braking systems, controlled casters, glide technologies, chair-floor interfaces, powered positioning assistance, room layout, care procedures or individualized seating selection.

How can the complete dining environment better support changing human ability without transferring missing effort or risk somewhere else.

Conclusion

For an independently mobile person, a dining chair remains remarkably simple. The person approaches, turns, sits, positions themselves at the table, eats, moves away, stands and leaves. The chair provides stability while the person provides the movement.

When mobility changes, another human being enters each stage of that process.

Getting seated becomes a fall-prevention concern. Getting positioned becomes a caregiver-ergonomics and dignity concern. Moving away from the table and exiting becomes another fall-prevention and ergonomic concern, while also introducing significant lateral and torsional forces into the chair and flooring.

The chair itself has not necessarily changed. Its role has.

Once that role changes, the chair deserves to be examined differently—not in isolation, but as part of a complete environment involving the person, caregiver, chair, table, flooring, physical space and care process.

The purpose of this paper is to understand the complete problem well enough that better solutions can be developed.

A chair is a chair...until it becomes part of providing care.

At that point, it is no longer furniture. It has become part of the care infrastructure.

Note on Dining Chair Classification Terminology

[1] The **Dining Chair Classification System (DCCS)** is a functional vocabulary developed in response to the differing ways dining chairs are used as human mobility and assistance requirements change.

Within this terminology, the conventional fixed dining chair is described as **Class A—Independent Use**, because the person using the chair supplies the mobility required to approach, become seated, position themselves, move away from the table and leave.

Other classifications describe seating intended for use in Dependent Care use where the caregiver, the person standing behind the chair, provides much of the physical effort.

Class B -Dependent Care, chairs incorporate a mobility feature along with a braking system that activates automatically.

Class C -Dependent Care, chairs include a mobility feature along with a manually applied braking system. A retrofittable option is also available within this class.

Class D – Dependent Care, chairs feature a lockable-swivel seat and restricted forwards/backwards movement.

The classification system is designed to help identify the application and functional requirements of each class enabling care communities to better match the chair to the level of care needs of each resident.

Purpose and Limitations

This paper does not propose that every fall, caregiver injury, damaged chair, difficult resident interaction or worn floor can be attributed to dining-chair design. Nor does it propose that one product or technology represents a universal solution. The memory-care example described in this paper is a field observation from one community and should not be interpreted as controlled clinical evidence of causation. Its purpose is to illustrate why the physical care process itself deserves examination when outcomes change.

The broader purpose of this paper is to encourage care providers, furniture manufacturers, architects, therapists, safety professionals and researchers to examine the person, caregiver, chair, table, flooring, physical space and workflow together. Only when the complete environment and the complete three-stage seating cycle are understood can individual interventions be evaluated for both what they solve and what consequences they create elsewhere.