

product design

officeinsight

Ava: Nemschoff's New Award Winning Patient Recliner

by Bob Beck

Last week in [officeinsight](#) while discussing the Herman Miller publication, "Nurses as Leaders in Healthcare Design," OI Editor Mallory Jindra called nurses "...the eyes and ears, the workhorse and the expert, and the heart and soul of the healthcare industry." This week, I give an example of how nurses can inform the design of products intended for use in healthcare facilities.

The recliner is an important furniture staple of the patient room. As with many functional items that have become ubiquitous, the design of recliners has settled on (many would say "settled for") a residential design that was developed by La-Z-Boy to make watching TV more comfortable. That design is driven by the fact that the mechanism permitting the chair to recline is bulky, somewhat complicated and needs a robust part to attach to. The standard solution is to attach it to the arm frame.

Since that particular recliner form and function became the dominant design, it has evolved very little. As a result, most patient room recliners have a very large footprint,

and even if equipped with casters, they are typically hard to maneuver to accommodate the various stakeholders: patients, caregivers, housekeepers and visitors.

When **Nemschoff**, a Herman Miller company, asked **David Ritch** and **Mark Saffell**, partners at **5D Studio**, to design a new patient room recliner, they faced a host of aesthetic and functional issues. In a recent discussion with officeinsight about the design process, Mr. Ritch said, "When we started, the brief was just for a stopgap recliner that Nemschoff could introduce at the next NeoCon – using the existing mechanism. But Gary Cruce, then the director of New Product Development at Nemschoff, kept pushing us to do something different than what was originally intended."

Nemschoff has a longstanding research and feedback relationship with the nursing staff at Froedtert Hospital in Milwaukee, WI. Very early on and throughout the project, that research was made available to 5D Studio. Said Mr. Ritch, "We had access to tons of research that



A current model of the La-Z-Boy residential recliner. Photo from La-Z-Boy website



Nemschoff's Auburn Patient Room Recliner, showing its significant La-Z-Boy DNA. Photography courtesy of Nemschoff

product design



Ava in a patient room with its noticeably smaller footprint



Mark Saffell and David Ritch of 5D Studio. Photo courtesy of 5D Studio

Nemschoff and Herman Miller have accumulated.” From the research and feedback from the staff at Froedtert Hospital, a cluster of design problems surfaced that demanded a rethinking of the design brief.

“It was typical of the kind of brief that changes as you go because everyone realizes that we’re never going to get where we all really want to go without re-approaching the problem and building a solution from the ground up,” said Mr. Saffell.

One of the most important needs identified for the new recliner was a significantly smaller footprint, but it had to be accomplished while keeping the dimensions of the seat area inside the arms the same. In the end, that meant doing away with the old La-Z-Boy inspired, arm-attached mechanism.

product design

So the team set about trying to design a recliner that would solve the functional problems in a way that was highly desirable to all the users, from medical and housekeeping staffs to patients, family members and visitors.

“That residential recliner archetype went straight from the home into the hospital, but we really wanted to break that apart and create a much lighter aesthetic, with more of a bucket chair or single-column lounge chair feel,” said Mr. Saffell. “Lighter, but still with a residential quality to it.”

In order to accomplish that goal, the team designed a totally new reclining mechanism that attaches to the inside structure of the seat; thus eliminating the need for bulky arms. And it turned out that eliminating the bulky arm and legs also led to a way to solve what the nurses had identified as another big problem with the typical recliner: arms getting in the way when helping a patient in or out of the chair, called “side transfers.”

So the design goal became how to facilitate, rather than complicate, side transfers to and from the recliner to a wheelchair, bed or other device. But any fixed arm failed that test, so the team took a cue from their earlier work on the Centé patient chair for Nemschoff, settling on a pivoting arm that could be swung out of the way.

“We looked at several different ways the arm could break away, and we ended up with a solution that allows the arm to simply rotate up out of the way,” said Mr. Ritch.

Part of solving the problem of the break away arms included addressing the method for activating that function so it would be easily accessible to a patient whether sitting upright or reclined, and also be easily accessible to a caregiver.



The arm pivot in the Centé patient chair designed for Nemschoff by 5D Studio in 2007



Pivoting the arms up and out of the way facilitates “side transfers”

product design

officeinsight



Notice the long gray actuator bar tucked under the molded urethane arm cap



The caster lockout actuator is easy to access from either side

The solution is a long activating lever discretely tucked into the concave shape of the arm right under the urethane arm cap.

Another important functional issue on the nurses' wish list was easy mobility. They need to be able to move the chair around in the room and also roll it to other areas in the hospital. Easy mobility is a goal when it's needed, but not at the expense of stability when it's not. While the staff wants to maneuver the recliner easily, it can't move away from someone trying to sit down – even if they are sitting down very heavily.

The team solved those dueling problems by extending frame elements as two legs at the back of the chair. They provide stability and still allow room for the caregiver's feet when pushing the chair from behind. Large 5" casters make the recliner

product design

officeinsight

highly mobile, and an easy to access but robust front locking mechanism locks the recliner in place. The finishing touch is a tactile push handle attached to the upper back.

Altogether these make Ava best in class in terms of mobility without sacrificing stability.

“By lightening the chair visually and solving the technical problems, we complicated the challenge of making it look like furniture instead of a machine,” said Mr. Saffell. “In the typical recliner, a lot of the moving parts are hidden from view by the arms. But our approach exposed everything, especially when the arms are in the up positions. To solve this we found ourselves constantly going back to quiet down the language.

“Then we gave it some residential references, like the headrest that references the wingback chairs but also adds a high level of functionality as support for a patient’s head when receiving dialysis or chemo-infusions. The ironic thing is that some of what we had to do to ‘quiet down’ the design actually added complexity, but in the end we’re very happy with the balance we’ve achieved.”

And apparently they are not the only ones pleased. After winning Contract magazine’s Best of Neo-

Con gold award in the Healthcare Patient Seating category and Interior Design’s Hip Award at NeoCon 2016, Ava has gone on to win The Nightingale Awards’ Gold and Best of Competition, European Healthcare Design’s 2016 Highly Commended designation and Interior Design’s Best of the Year.

But of course the award Nem-schoff is undoubtedly most pleased with is the many orders that have already been awarded this fresh approach to an old problem. ■



The wing back reference also provides support for the head during a snooze



The frame, extended out the back, provides stability and room for a user’s feet and legs when pushing from behind. The handle enhances mobility