OAKWORKS® MEDICAL PRODUCTS

3000 Series Procedure Chairs
Product Evaluation

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SOUND ERGONOMICS

Procedure Chair Product Evaluation for Oakworks Medical

Product: 3000, 3050, 3100 Procedure Chairs

Discussion

To accommodate a wide range of users, an exam or procedure table/chair should be adjustable to fit the physical dimensions of 90% of the user population with the lower limits of adjustability chosen to fit the 5th percentile female and the upper limits to fit the 95th percentile male. A broad range of adjustability will fit the largest population of users. The majority of data from the United States have been collected on military personnel and are used for the basis of design comparisons. For the purposes of equipment design, the differences in anthropometric data from this population to other user populations may not be significant.

Product Evaluation

An evaluation of the above-mentioned procedure chairs from Oakworks Medical was performed focusing on features that give the providers optimal access to the patient as well as the ideal patient position and comfort. The chairs are designed to be used in a number of medical environments.

3050 Model
Arm Rest and Mobility System standard
(not for patient transport)

3000 Model
(shown with optional headrest)

3100 Model
Mobility System standard
(not for patient transport)

Procedure Chair Assessment

EVALUATION FACTOR	Yes	No	N/A or Not eval'd
HEIGHT ADJUSTABILITY			
1. Low enough to allow patients to get on & off unassisted	X		
2. Maneuverable and full-wheel mobility	X		
LOCKING OPTIONS			
3. Easily operated wheel locks	X		
ACCESSIBILITY			
4. Open access from all sides	X		
5. Chair support & frame do not interfere with provider's access to the patient	X		
6. Chair support & frame do not interfere with optimal positioning of any ancillary equipment	X		
CONTROLS			
7. Controls are electronic	X		
8. Option for both hand and foot controls	X		
9. Controls are accessible	X		
10. Controls are easy to use	X		
OTHER OPTIONS			
11. Trendelenburg/reverse Trendelenburg	X		
12. *Stirrups/procedure tray		X	
13. *Side rails/arm rests	X		
14. Option for table extender	X		
15. *Patient safety devices	X		
*Stirrups are not available on the 3000 and 3050 models but are standard on the 3100 model. There is an option to add a procedure tray to this chair. *Chairs can be ordered with either arm rests or side rails, but not both. Both options fold under the chairs and do not obstruct access to the patient. The arm rests have 3 different positions for patient safety and comfort and provider access to the upper extremity. They can swing completely out of the way for access to the patient. *Patient restraint straps are available as an option for these chairs if needed.			

In addition to the above, the exam table was also evaluated for appearance, patient comfort and safety.

Observations

Overall appearance/design:

The chairs have dual support towers and have a very sleek and uncluttered appearance. The mattress extends to the edge of the frame. This feature allows the provider to position patients so that he/she has optimal access during the procedure without excessive reach or arm abduction.

Patient experience:

In the past, little attention has been given to how an exam room impacts a patient's experience. It has been more important that the room be designed and furnished to facilitate exams and procedures efficiently. There is currently more focus on the patient's experience during these exams and procedures, as evidenced by "customer" satisfaction surveys sent to patients after their clinic/office visits. An exam table or chair definitely is a significant part of the patient's experience, providing comfort and a feeling of safety. Oakworks considered the patient experience during the development of this procedure chair focusing on comfort, ease of positioning the chair, safety and access to the patient during any procedure. Additionally, a feeling that the provider's focus is on the patient throughout the entire exam or procedure is important. Using electric controls to position the exam chair gives the provider time to engage with the patient and describe the steps of each exam or procedure. The time spent moving the chair into the desired position is an ideal time for conversations between the patient and provider.

Mobility system:

The mobility system of the casters makes it easy to move the chair for repositioning. It is operated by an on/off switch on the base of the chair and is concealed by the thermoform cover on the base.

There are 2 casters on the base of the back tower that do not swivel and one on the base of the front caster that does swivel. There are a wide variety of users for these chairs and it remains to be seen how often these chairs are moved around in an exam or procedure room. The central locking casters should make it fairly easy to reposition the chairs, if necessary.

Observations (continued)

Height range:
The chairs' lowest height is sufficient enough to allow ambulatory patients and patients that enter the room in a wheelchair to get on the table from the floor. The height range for all tables is 19"-34" which can accommodate providers of varying heights and work practices. The minimum height gives patient access to care.

Electric controls:
Chair height, Trendelenburg and reverse Trendelenburg, footboard and Fowler back are all controlled electrically with both the hand (standard) and foot controls (optional on the 3000 and 3050 models, but both are standard on the 3100 model). The hand controller has the additional controls for presets and for the memory position, not available on the foot controller.

Chair height adjustability is available on both controls, it is important for the provider to comfortably access the patient. The procedures and exams performed on these chairs with the possible use of an ultrasound system next to the chairs makes electric height adjustability necessary.

Patient positioning/accommodation:
The chairs are 26" wide and 35" wide with the armrests. Without the arm rests, the chair width may be too narrow for some patients to rest their arms on the chair. The length of the chair is 61" without the head rest, but with the head rest, the chairs are up to 76" long long and will accommodate the majority of patients. The lift and load capacities are all the same at 550 lbs. This is an extremely important feature since a chair that will not lift as much weight as it can hold, cannot be adjusted in height during the procedure to ensure optimal access to the patient.

The backrest of the table glides forward slightly as it is being positioned. This to helps accommodate patients of different heights and leg lengths while seated without them having to reposition themselves. The articulating headrest can also be raised and lowered, depending on the height that is comfortable for each patient.

Side rails and arm rests:
These are options for the chairs and are ordered with one or the other but not both. Both options fold back under the chairs and do not restrict a provider's access to the patient. The arm rests have 3 positions in 20 degree increments to a full swing out to 90 degrees from the side of the chairs. This feature allows the provider to extend a patient's arm out to the side for procedures such as upper extremity ultrasound exams, access to the antecubital fossa for IV insertion and dialysis, and minor surgical procedures on the arm. The arm rests will also swing 180 degrees from the side of the chair so they do not interfere with the provider's access to the patient. Both options provide patient safety and would most likely be selected based on the type of exams or procedures performed at a facility as well as the patient population.

Observations (continued)

Table padding:
The thickness of the padding is 3" which makes the chairs comfortable, regardless of the length of the procedure. The pads can be removed easily for cleaning or for any upholstery repairs that might be necessary.

Other Features

a) There is an option for battery backup that can be added to the chairs.
b) The 3100 model offers both the foot control and hand control as standard features. There are procedures where two providers may want to change the chair's positions.
c) The electric cord can be detached from the chairs.
d) The contoured head rest provides support for the patient's head.
A crescent-shaped head rests is also available and may be a good choice for certain types of procedures.
e) In some of the suggested markets, an IV pole may be necessary. A T-rail adapter can be added to these chairs which will accommodate an IV pole or for hanging drain bags. Mounting locations for the T-rail adapter are at the end of the backrest and seat section of the chair.

Possible markets:

a) ambulatory surgery facilities
b) OB-GYN offices
c) infertility practices
d) sports medicine practices
e) dermatology clinics
f) dialysis facilities
g) chemotherapy facilities
h) podiatric practices
i) general internal medicine practices
j) pediatric office practices
k) physical therapy facilities
l) elder care facilities
m) urgent care

Conclusions

I found these chairs to be outstanding in appearance, design and features that optimize the provider and patient experience. Patient safety is incorporated in the table designs and in the smooth movements when position changes are necessary. A comfortable and aesthetically pleasing exam chair enhances the patient experience and contributes to a more relaxing environment in any exam or procedure room.

Submitted August 1, 2022 by:

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