

Welcome to the AccessibilityOnline Webinar Series



A collaborative program between the
ADA National Network and the
U.S. Access Board



The Session is Scheduled to begin at 2:30pm Eastern Time
We will be testing sound quality periodically

Audio and Visual are provided through the on-line webinar system. This session is closed captioned. Individuals may also listen via telephone by dialing 712-432-3100 code 930098 # (This is **not** a Toll Free number)

The content and materials of this training are property of the US Access Board and the Great Lakes ADA Center and cannot be used and/or distributed without permission. This program is funded through a contract agreement with the U.S. Access Board. For permission to use training content or obtain copies of materials used as part of this program please contact us by email at adata@adagreatlakes.org or toll free (877)232-1990 (V/TTY)

www.AccessibilityOnline.org



Webinar Features

- **Closed captioning** – click **CC** icon (located in the Audio/Video Panel) or control-F8 (command-F8) and adjust your screen.
- **Questions** – Highlight “*GreatLakes*” in the participant list and “right click” on your mouse to send a private message. Type your message into the chat area that appears. The question will be viewed by all moderators. (Keyboard - F6, Arrow up or down to locate “*GreatLakes*” and select to send a message)

2



Webinar Features (con't)

- **Customize your view** – You can change the size and location of any of the panels (Chat, etc.) by hovering your mouse over the ☰ icon at the right of each panel and select “Detach Panel”. Each panel can be repositioned and resized.

3



Webinar Features (con't)

- **Resize the Whiteboard (where PowerPoint slides are shown):** It can be resized using the drop down located in the Whiteboard area. (The default is “Fit Size”).
- **Emotions:** Please refrain from using the emoticons, hand-raising and polling features during this session unless directed to do so by the presenter.

4



Presenter



Earlene Sesker

UNITED STATES ACCESS BOARD

5



Proposed Guidelines for Medical Diagnostic Equipment

Session Agenda

- **Background**
- **Organization of Proposed Rule**
- **Proposed Technical Criteria**
- **Major Issues**
- **Next Steps**

UNITED STATES ACCESS BOARD

6

Background

- **Section 4203 of Patient Protection and Affordable Care Act (Public Law 111-148, 124 Stat. L. 119)**
- **Section 510 of the Rehabilitation Act of 1973**

UNITED STATES ACCESS BOARD

7

Federal Partners



- **U.S. Food and Drug Administration, Department of Health and Human Services**
- **Disability Rights Section, Department of Justice**
- **Department of Veterans Affairs**

UNITED STATES ACCESS BOARD

8

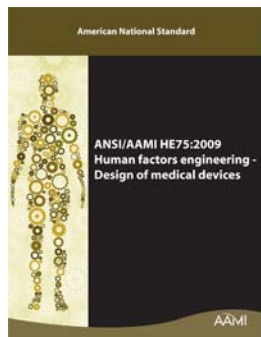
Barriers Affecting Accessibility and Usability of Medical Diagnostic Equipment

- 75% - examination tables moderately difficult to impossible to use
- 68% - radiology equipment moderately difficult to impossible to use
- 53% - weight scales moderately difficult to impossible to use
- 50 % - examination chairs moderately difficult to impossible to use

Rehabilitation Engineering Research Center on Accessible Medical Instrumentation 2004 national Survey

9

Background



- **ANSI/AAMI HE75 – 2009 Human Factors Engineering – Design of Medical Devices**
- **Chapter 16 – Accessibility Considerations**

UNITED STATES ACCESS BOARD

10

Background



ADA and ABA Accessibility Guidelines

UNITED STATES ACCESS BOARD

11

How The Rule is Organized

- Preamble
- Regulatory Analysis
- Text of the Proposed Rule

UNITED STATES ACCESS BOARD

12

How The Rule is Organized

- M1 Application and Administration
- M2 Scoping Requirements
- M3 Technical Criteria
 - Supine, Prone, or Side Lying Position
 - Seated Position
 - Seated in Wheelchair
 - Standing Position
 - Communication
 - Operable Parts

UNITED STATES ACCESS BOARD

13

Definitions

Enforcing Authority – An agency that adopts the standards as mandatory requirements for entities subject to its jurisdiction.

Medical Diagnostic Equipment – Equipment used in or in conjunction with medical settings by health care providers for diagnostics purposes.

UNITED STATES ACCESS BOARD

14

Definitions

Operable Parts – A component of diagnostics equipment that is used by the patient to activate, deactivate, or adjust the equipment.

Transfer Surface – Part of diagnostic equipment onto which patients who use mobility devices or aids transfer when moving onto and off of the equipment.

UNITED STATES ACCESS BOARD

15

Supine, Prone, or Side-Lying



UNITED STATES ACCESS BOARD

16

Supine, Prone, or Side-Lying Position

- Transfer Surface
- Supports
- Lift Compatibility

UNITED STATES ACCESS BOARD

17

Supine, Prone, or Side-Lying Position

Transfer Surface:

- Height
- Size
- Transfer Sides



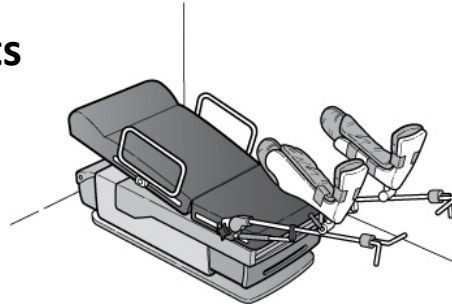
UNITED STATES ACCESS BOARD

18

Supine, Prone, or Side-Lying Position

Supports

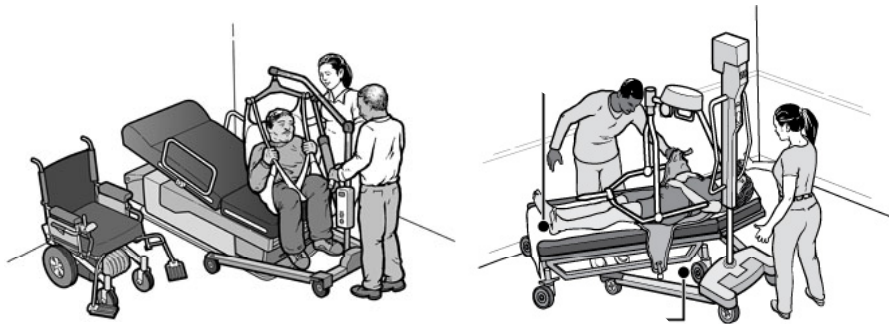
- Transfer Supports
- Stirrups
- Head and Back Support



UNITED STATES ACCESS BOARD

19

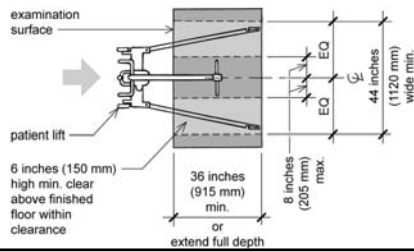
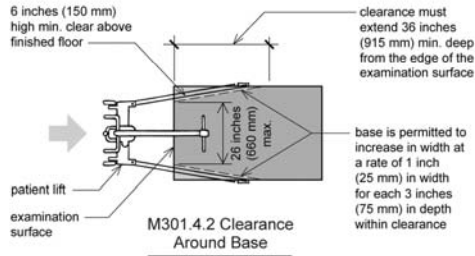
Lift Compatibility



UNITED STATES ACCESS BOARD

20

Lift Compatibility



21

Seated Position



UNITED STATES ACCESS BOARD

22

Seated Position

- **Transfer Surface**
- **Supports**
- **Lift Compatibility**



UNITED STATES ACCESS BOARD

23

Lift Compatibility Exception

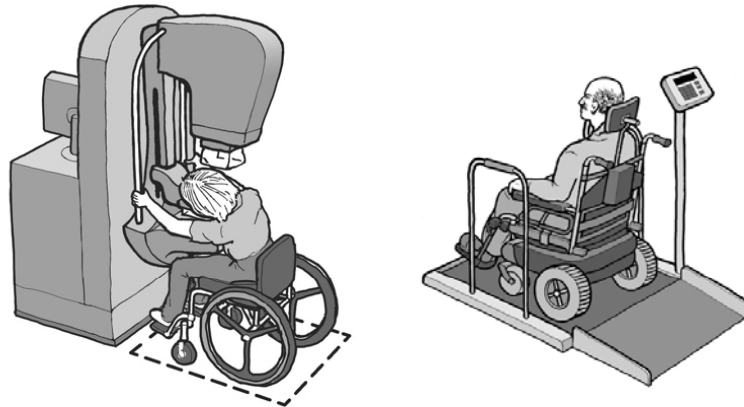
Where diagnostic equipment meets the requirements of M303 (seated in a wheelchair) and provides a folding seat, the equipment shall not be required to comply with the lift compatibility provisions.



UNITED STATES ACCESS BOARD

24

Seated in a Wheelchair



UNITED STATES ACCESS BOARD

25

Seated in a Wheelchair

- **Wheelchair Spaces**
- **Entry**
- **Components**

UNITED STATES ACCESS BOARD

26

Seated in a Wheelchair

Wheelchair Spaces:

- Orientation
- Width
- Depth
- Knee Clearance
- Toe Clearance



UNITED STATES ACCESS BOARD

27

Seated in a Wheelchair

Entry:

- Vertical
- Beveled
- Ramped



UNITED STATES ACCESS BOARD

28

Seated in a Wheelchair Components



UNITED STATES ACCESS BOARD

29

Seated in a Wheelchair Components

Height of the breast platform = 30 inches minimum and 42 inches high maximum when in use by a patient seated in a wheelchair.

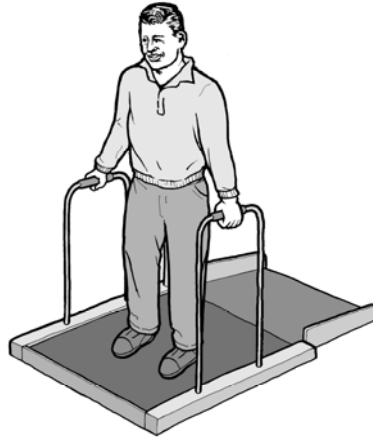


UNITED STATES ACCESS BOARD

30

Standing

- **Standing Surface**
- **Standing Supports**



UNITED STATES ACCESS BOARD

31

Supports

- **Transfer**
- **Standing**

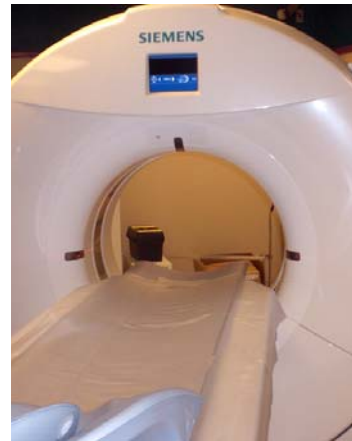


UNITED STATES ACCESS BOARD

32

Technical Criteria Across Equipment Types

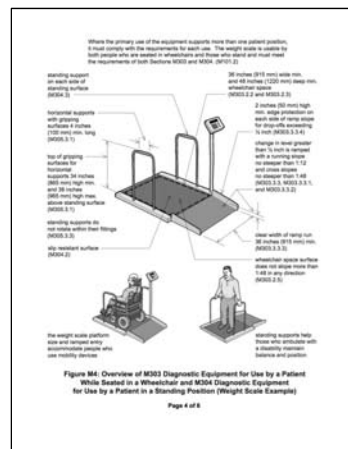
- Communication
- Operable Parts



UNITED STATES ACCESS BOARD

33

Example Application Document



34

Responses to NPRM

- **46 questions were posed in the preamble**
- **51 commenters**
- **Range of comments**

UNITED STATES ACCESS BOARD

35

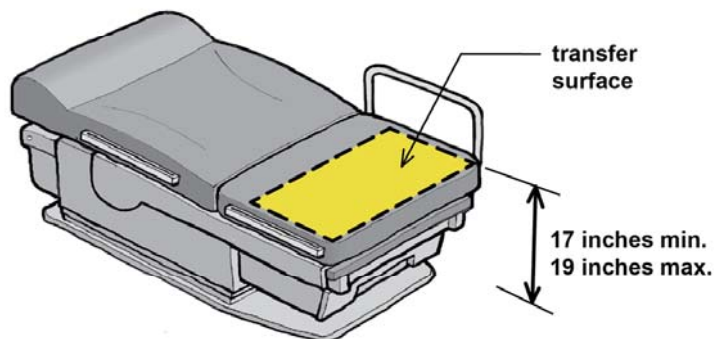
Major Issues

- **Transfer Surface Size and Height**
- **Transfer Surface Obstructions**
- **Transfer Support Location and Configuration**
- **Depth of Wheelchair Spaces**

UNITED STATES ACCESS BOARD

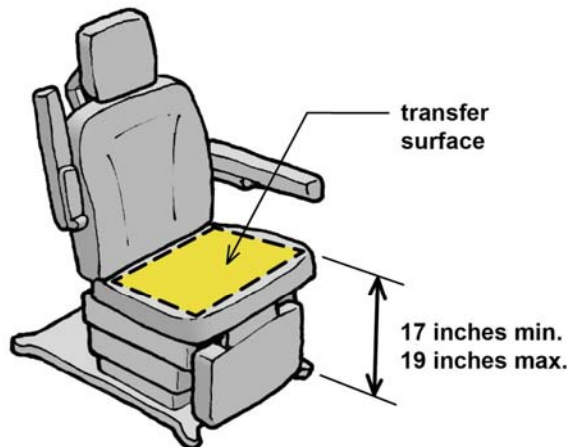
36

Transfer Surface Height



37

Transfer Surface Height



38

Transfer Surface Height

Question 14

Adjustable Height

- a) Types of equipment currently height adjustable?**
- b) Types of equipment not height adjustable?**
- c) Equipment that can not be height adjustable?**
- d) Intermediate heights?**

39

Transfer Surface Height

Patients

- Height is a major concern**
- Range of users accommodated**

UNITED STATES ACCESS BOARD

40

Transfer Surface Height

Manufacturers

- **Seat profile**
- **Components beneath transfer surface**
- **Span between the lowest transfer height and optimal caregiver height**
- **Cost and redesign**

41

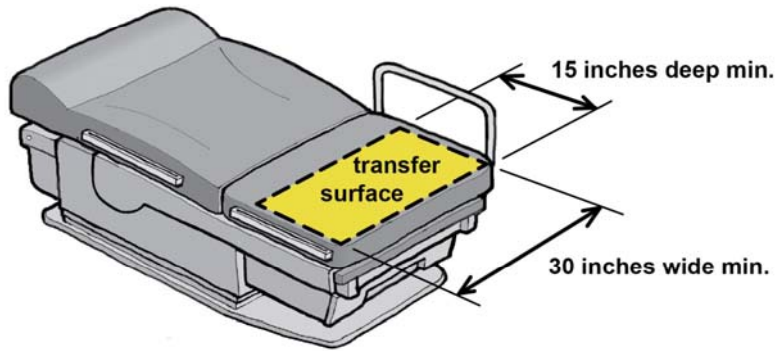
Transfer Surface Height



Equipment Design Concerns

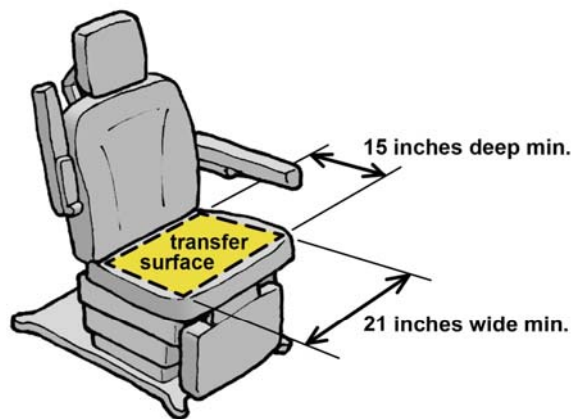
42

Transfer Surface Size



43

Transfer Surface Size



44

Transfer Surface Size

Question 15

Supine, Prone, or Side-Lying Position

- a) Is proposed size sufficient? (30" by 15")
- b) Support surface width \geq transfer surface?
- c) Alternate dimensions?
- d) Permit expandable surface (e.g., extendable platform)
- e) If required to be provided at more than one location where should transfer surface be located?

45

Transfer Surface Size

Question 16

Seated Position:

- a) Is proposed size sufficient?
- b) Alternate dimensions?
(21" wide and 15" deep)



46

Response to NPRM Questions

Patients

- **Space for transfer**
- **Repositioning after transfers**
- **Range of body sizes**
- **Ergonomics**

UNITED STATES ACCESS BOARD

47

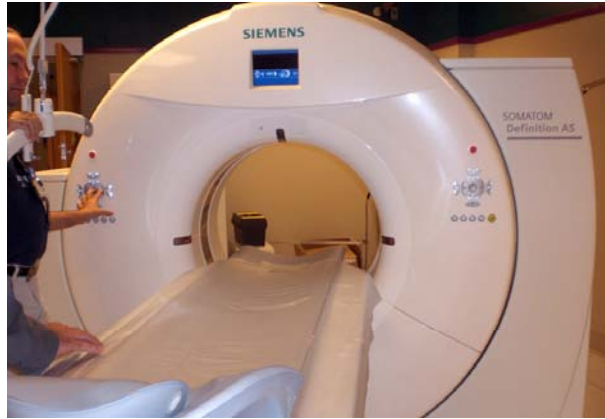
Response to NPRM Questions

Manufacturers

- **Use of supports**
- **Corner shape on transfer sides**
- **Relationship to base design**
- **Equipment proportions**
- **Redesign and costs**
- **Impact on exam room layouts**

48

Transfer Surface Size



Equipment Design Concerns

49

Transfer Surface Size

Diagnostic Equipment Used by Patients in Supine, Prone, or Side-Lying Position

- **Width: increase to 35 to 36 inches
decrease to 25 to 28 inches**
- **Same requirement for Equipment
Used by Patients in Seated Position**

UNITED STATES ACCESS BOARD

50

Transfer Surface Size

Diagnostic Equipment Used by Patients in in Seated Position

- **Alternate dimensions – 17 inches minimum depth**
- **Relationship to size requirement**

UNITED STATES ACCESS BOARD

51

Permitted Obstructions to the Transfer Surface



Same issue for equipment used by patients in a supine, prone, or side-lying and equipment used in a seated position

52

Transfer Sides

Transfer Sides - Located to provide options to transfer from a mobility device onto one short side (depth) and one long side (width) of the surface. Each transfer side to provide unobstructed access to the transfer surface.

EXCEPTION: Temporary obstructions shall be permitted provided that they can be repositioned to permit transfer.

53

Permitted Obstructions

Question 17

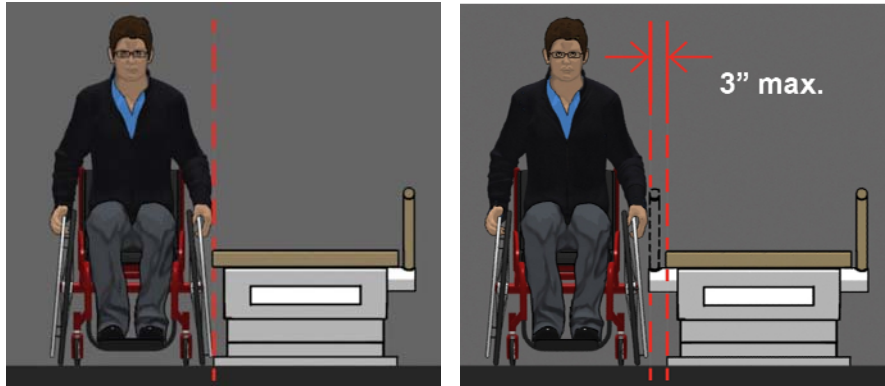
Transfer Sides:

- a) 3 inches maximum extension beyond the edge of the transfer sides
- b) Redesign requirements



54

Permitted Obstructions



Permit Up to 3 Inch Gap?

UNITED STATES ACCESS BOARD

55

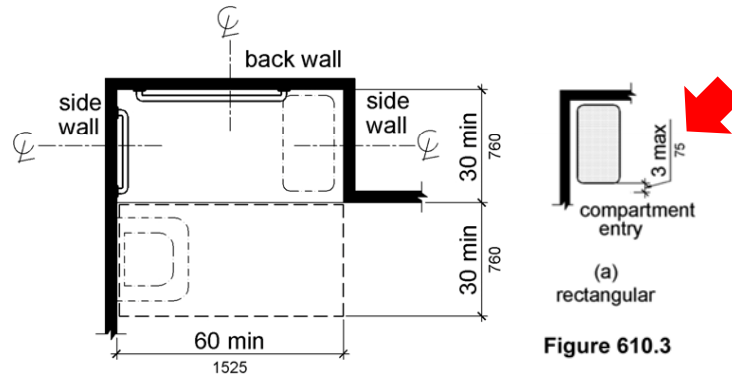
Permitted Obstructions



Equipment Components That Extend Beyond Exam Surface

56

Permitted Obstructions



**Shower seat edge is permitted to be 3 inches max.
from shower entry**

57

Response to NPRM Questions

Patient Use – If Gap is Permitted

- Concerns about safety of transfers across a gap to exam surface
- Patient may not be in optimal health
- Equipment parts that extend beyond surface should not be permanently mounted

UNITED STATES ACCESS BOARD

58

Response to NPRM Questions

Equipment – If Gap is Not Permitted

- Need to add accessories
- Impact on certain equipment types – beds/stretchers and imaging
- Capacity of supports to bear weight loads if removable
- Redesign likely and associated cost

UNITED STATES ACCESS BOARD

59

Transfer Research



set up reflects
amusement ride
focus

**Study: The Impact of
Transfer Setup on the
Performance of
Independent Wheelchair
Transfers**

**120 Subjects capable of
independent transfer**

**Variety of configurations
tested – including distance
from seat**

60

Transfer Research



Height adjusted and spacers added at floor level

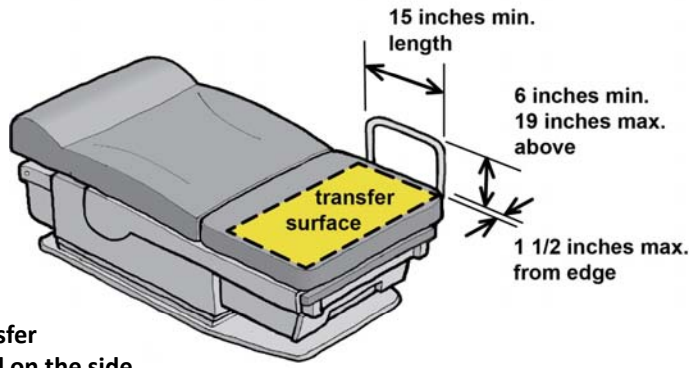
61

Transfer Support Location and Configuration



62

Transfer Support Location and Configuration



At least one transfer support provided on the side of the transfer surface (recommended on each side)

UNITED STATES ACCESS BOARD

63

Transfer Support Location and Configuration

Question 19

- a) Is proposed criteria sufficient?
- b) Can supports on different types of equipment meet proposed criteria?
- c) Redesign costs?
- d) Alternate technical criteria?
- e) Permit angled or vertical supports?

UNITED STATES ACCESS BOARD

64

Transfer Support Location and Configuration

Question 20

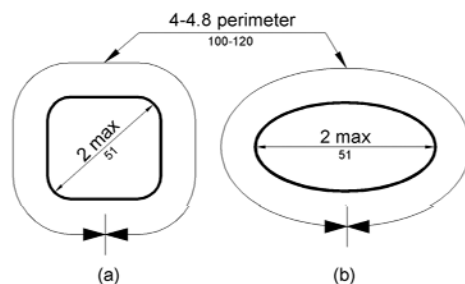
Height:

- a) Considering 6 min. and 19 max. above surface. Is height this range usable?
- b) Can supports on different types of equipment meet proposed criteria?
- c) Alternate criteria?

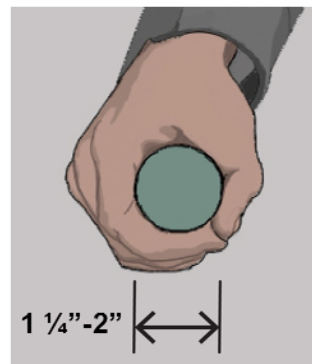
UNITED STATES ACCESS BOARD

65

Proposed Gripping Surface Cross Section



Non-circular Cross Section



Circular Cross Section

UNITED STATES ACCESS BOARD

66

Armrest on Exam Chairs



UNITED STATES ACCESS BOARD

67

Transfer Support Location and Configuration

Question 21

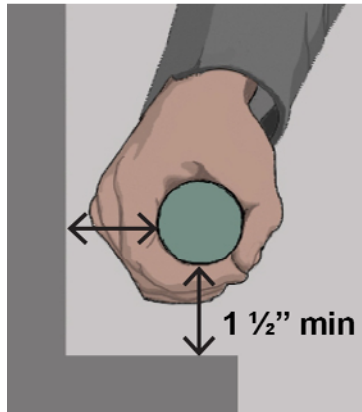
Cross Section of Gripping Surface:

- a) Can transfer support meet grab bar specifications in ADA Standard?
- b) Can handholds meeting cross section be integrated in cushioned armrest?
- c) Alternate designs?

UNITED STATES ACCESS BOARD

68

Proposed Gripping Surface Clearance



UNITED STATES ACCESS BOARD

69

Transfer Support Location and Configuration

Question 22

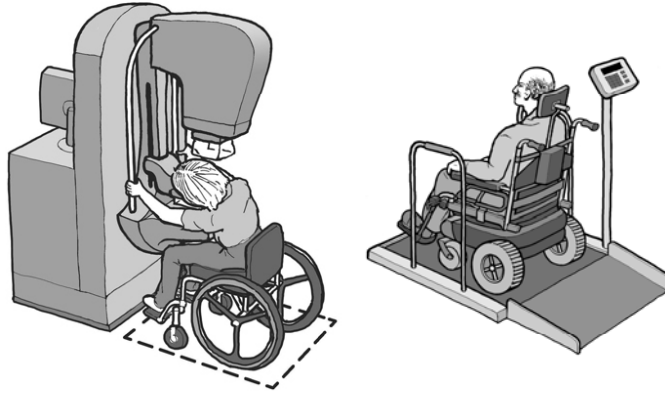
Clearance Around Gripping Surfaces:

Can transfer supports on different types of equipment provide 1 1/2 inches minimum clearance around the gripping surfaces?

UNITED STATES ACCESS BOARD

70

Depth of Wheelchair Spaces

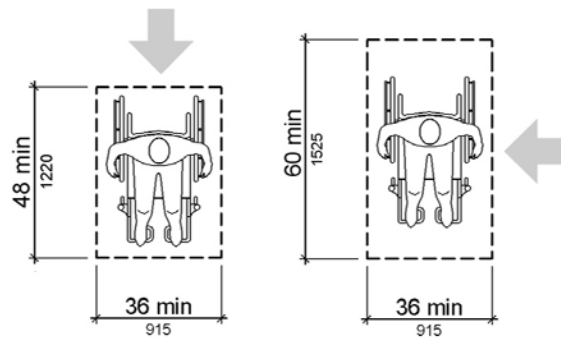


M303 Diagnostic Equipment Used by Patients Seated in a Wheelchair

UNITED STATES ACCESS BOARD

71

Depth of Wheelchair Spaces



front or rear

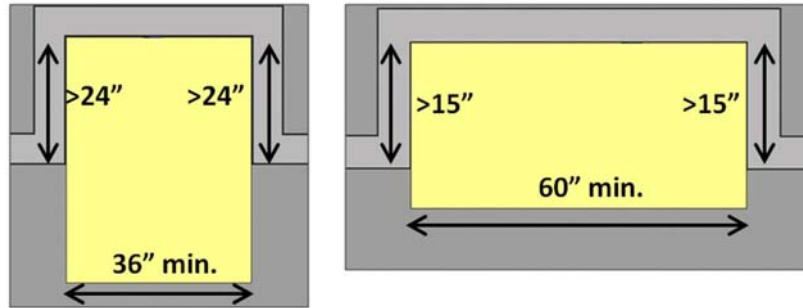
side

Wheelchair Spaces – Width and Depth

UNITED STATES ACCESS BOARD

72

Depth of Wheelchair Spaces

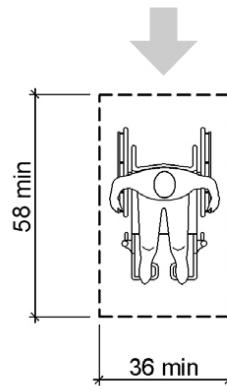
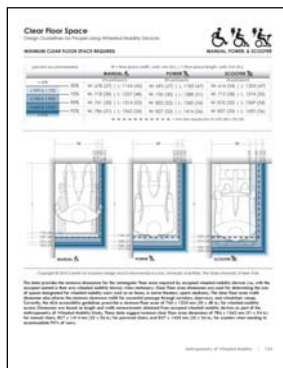


Based on 305.7 Maneuvering Clearances where space confined on 3 sides (and more than half of space depth confined)

UNITED STATES ACCESS BOARD

73

Depth of Wheelchair Spaces



data from wheeled mobility anthropometry project indicates a 58 inch width minimum for front or rear entry

74

Depth of Wheelchair Spaces

Question 29

- a) What would be the incremental costs for the design or redesign and manufacture of the equipment to provide a wheelchair space that is 58 inches deep minimum?
- b) Are there types of equipment that cannot provide a wheelchair space that is 58 inches deep min. because of the structural or operational characteristics of the equipment?

UNITED STATES ACCESS BOARD

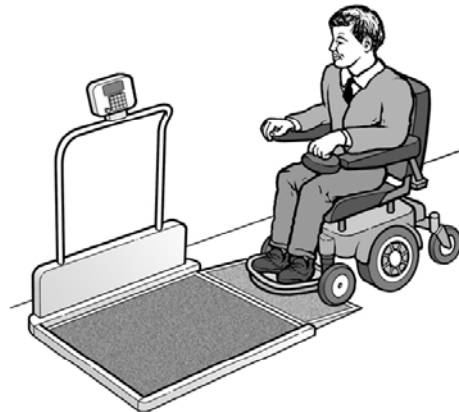
75

Depth of Wheelchair Spaces

edge protection –
some curbs permit
wheelchair footrests to
extend beyond the raised
platform

Exceptions Considered if
edge protection permits:

- 32" width minimum, 36" would be needed for arms and elbows
- 48" depth minimum



**Wheelchair Spaces on
Raised Platform**

76

Depth of Wheelchair Spaces

Question 31

- a) How much of 48 min. depth of wheelchair space should be permitted to extend beyond raised platform edge and over edge protection?
- b) Maximum height of edge protection to allow extension beyond platform over edge protection?
- c) Should supports be prohibited from obstructing wheelchair space outside the perimeter of the raised platform above any edge protection?

UNITED STATES ACCESS BOARD

77

Depth of Wheelchair Spaces

Question 32

- a) Raised platforms usable by patients who use scooters?
- b) Should width and depth be changed to accommodate scooters?
- c) Should folding seats be required on raised platforms?
- d) If folding seat provided should platform be able to accommodate scooters?



78

Next Steps

- **Comment Analysis**
- **Advisory Committee**
- **Final Rule**

UNITED STATES ACCESS BOARD

79

Questions?

Highlight "*GreatLakes*" in the participant list and "right click" on your mouse to send a private message. Type your message into the chat area that appears. The question will be viewed by all moderators. (Keyboard - F6, Arrow up or down to locate "*GreatLakes*" and select to send a message)

80



U.S. Access Board

(800) 872-2253 (voice)

(800) 993-2822 (TTY)

E-mail: ta@access-board.gov

www.access-board.gov

UNITED STATES ACCESS BOARD

81

**Thank you for participating
in today's webinar**



Next scheduled session:

“Accessible Amusement Rides”

January 3, 2013

www.AccessibilityOnline.org

877-232-1990 (V/TTY)

82