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Welcome to Fireside Chats

Built Environments and Health: Falls Prevention: Safer bathrooms - grab bar research and application

Friday, 11 April 2008, 01:00 PM — 02:30 PM (Eastern Time)

Advisors on Tap:

Paulette Guitard, Ph.D, University of Ottawa

Heidi Sveistrup, PhD, University of Ottawa,

Université d'Ottawa | University of Ottawa



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Housekeeping



Telephone:



- *6 to mute/unmute
- If your line is 'bad' – hang up and call back in
- Do not put us on hold

We will be recording this session for possible future pod casts and presentations

Visual Presentation: from our computer to yours.....



- Via Bridgit software (see Fireside Chat Instructions)
- There may be a few seconds delay in transmission
- If difficulties: use the back up PowerPoint Presentation:
www.chnet-works.ca
 - click on Fireside Chat, scroll to today's 'chat' info

Agenda:



- Sign in and tech help prior to the 'chat'...
- Welcome, Housekeeping and Introductions
- Presentation and Discussions
- Closure

Today's 'chat'...

- This Fireside Chat will look at the most current research on bathroom grab bars - what we know and what we don't know.
- Our Advisors on Tap will share information gleaned from studies on bathtub grab bar placement and configurations completed in the Motor Control Laboratory and the Occupation Therapy Activities of Daily Living Laboratory at the University of Ottawa.
- This chat also provides an opportunity to overview an evidence based proposed building code change for bathroom grab bars, how community health organizations and individuals can be heard in the 'building code public consultation process' as well as share and discuss sample messages for the media re: the need for safer bathrooms.

Advisor on Tap...

- **Paulette Guitard, Ph.D, O.T. Reg. (Ont.), O.T.(C)**
School of Rehabilitation Sciences, University of Ottawa.
- Dr Guitard is an Occupational Therapist. Her clinical background is varied but she has worked primarily with adolescents and adults with physical disabilities. She is extending her clinical expertise in studying assistive technologies and adapted environments to enable independent living. She is also involved in developing post-fall support interventions for older adults.

Advisor(s) on Tap

- **Heidi Sveistrup, PhD**, School of Rehabilitation Sciences, University of Ottawa,
- Dr Sveistrup is trained as a biomechanist and neuroscientist studying posture control and regulation in individuals of all ages. More recently she has been working with clinician-scientists focusing on Aging in Place and technologies for independent living.

Objectives

To determine perceived usefulness and safety of five different configurations of bath bars by ambulatory community-dwelling seniors.

To record pattern of use of five different configurations of bath bar placements by ambulatory community-dwelling seniors.

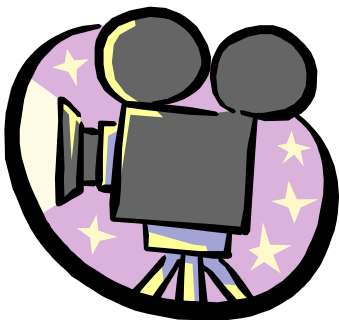
METHOD



103 seniors recruited from seniors' clubs



5 bath grab bar configurations



Surveys and videotape

Canadian Standards
Association

Ontario Building
Code

Ottawa/Carleton
Common



US Uniform Federal
Accessibility Standards

All Bar



Evaluation of optimal bath grab bar placement for seniors

Who were our participants?

Mean age: 70 years (ranged from 60-83)

Primarily women: 64/103

Self-reported balance problems: 30%

Falls in previous year: 25%

Uses mobility aid: 10%



What was the home bathing profile?

Over 40% reported difficulties with bathing

2 had bath falls in the last year

2 had restricted bathing routines

37/103 participants had bars at home

Majority had one bar only

$\frac{3}{4}$ of owners used them on a regular basis

Home bars on back wall (29), rim (10), end wall (5)



How were the bars rated?

Independent ratings after trying individual configurations.

All rated relatively high but:

All Bar always highest

UFAS & OCCC flip/flop for second place

OBC followed closely by CSA always lowest

How were the bars rated?

Relative ranking based on photos after trying all configurations:
Perceived most Helpful, useful, safest

All Bar ranked highest by majority of users on all categories (40-50%)

Ottawa-Carleton ranked second on all categories (20-30%)

Relative ranking based on photos after trying all configurations:
Perceived least Helpful, useful, safest

Ontario Building Code ranked lowest on all categories (40-45%)

Canadian Standards Assoc ranked second lowest on all
categories (~20%)

How did participants actually “use” the bars?



Getting in:

13 people did not use bar
(1 used the wall)



Getting out:

16 people did not use bar
(4 used the wall)



How did participants actually “use” the bars?

Getting in: 13 people did not use bar
(1 used the wall)

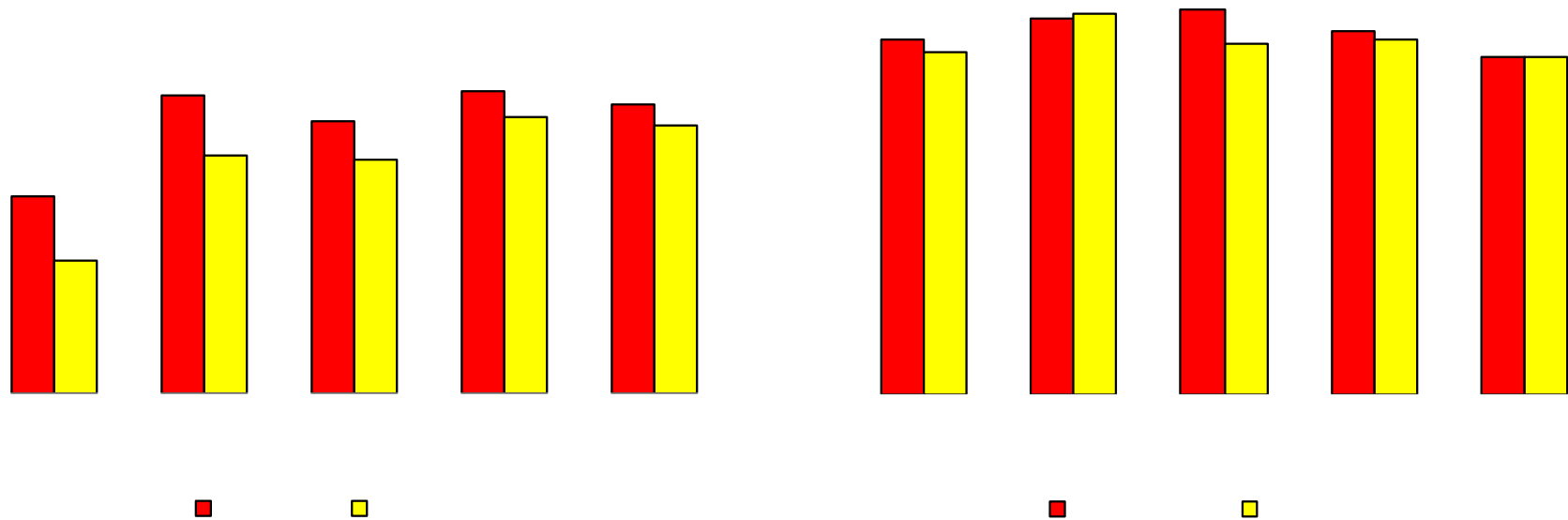
Getting out: 16 people did not use bar
(4 used the wall)

Sitting down: 6 people did not use bar
(5 used the bath rims)

Standing up: 8 people did not use bar
(6 used the bath rims)



How were individual configurations used?



Characteristics of users versus non-users

- Older
- Took longer to complete TUG and had lower scores on 1-legged stance
- Self-reported difficulties in getting in/out of and up/down in tub

Conclusions

- Need to more fully explore reasons for discord between perception of usefulness and actual use
- Two bars minimum
 - Vertical (horizontal) on entry wall
 - Angled or horizontal on back wall
- Rim surface materials crucial

MOVING FORWARD...

- Location and orientation of grab bars influence perception and use during bath transfers and sitting/standing when balance is not challenged
(Sveistrup, Lockett, Edwards, Aminzadeh, 2002)
- When available, grab bars are used for transfers and assistance during sitting/standing when balance is not challenged
(Sveistrup, Lockett, Edwards, Aminzadeh, 2002)
- How are grab bars used and how effective are they when balance is perturbed?

METHODOLOGY

PURPOSE:

- examine the effectiveness of different bath grab bars to prevent falls when balance is perturbed
- identify barriers to their acceptance and use

SPECIFIC OBJECTIVES

- determine actual use grab bars when balance is perturbed
- determine most effective configuration
- determine if the phase of transfer influences grab bars use
- identify barriers to the acceptance and use of grab bars
- explore the influence balance loss on their acceptance

METHODOLOGY

Subjects:

- 20 adults aged 20-30
- 60 adults aged 50-60

Testing protocol:

- Informed consent
- Baseline measures
- Experiment (videotaped)
- Follow-up interview 3 months post.



METHODOLOGY

No bar



Ontario Building Code (OBC)



Canadian Standard Association (CSA)

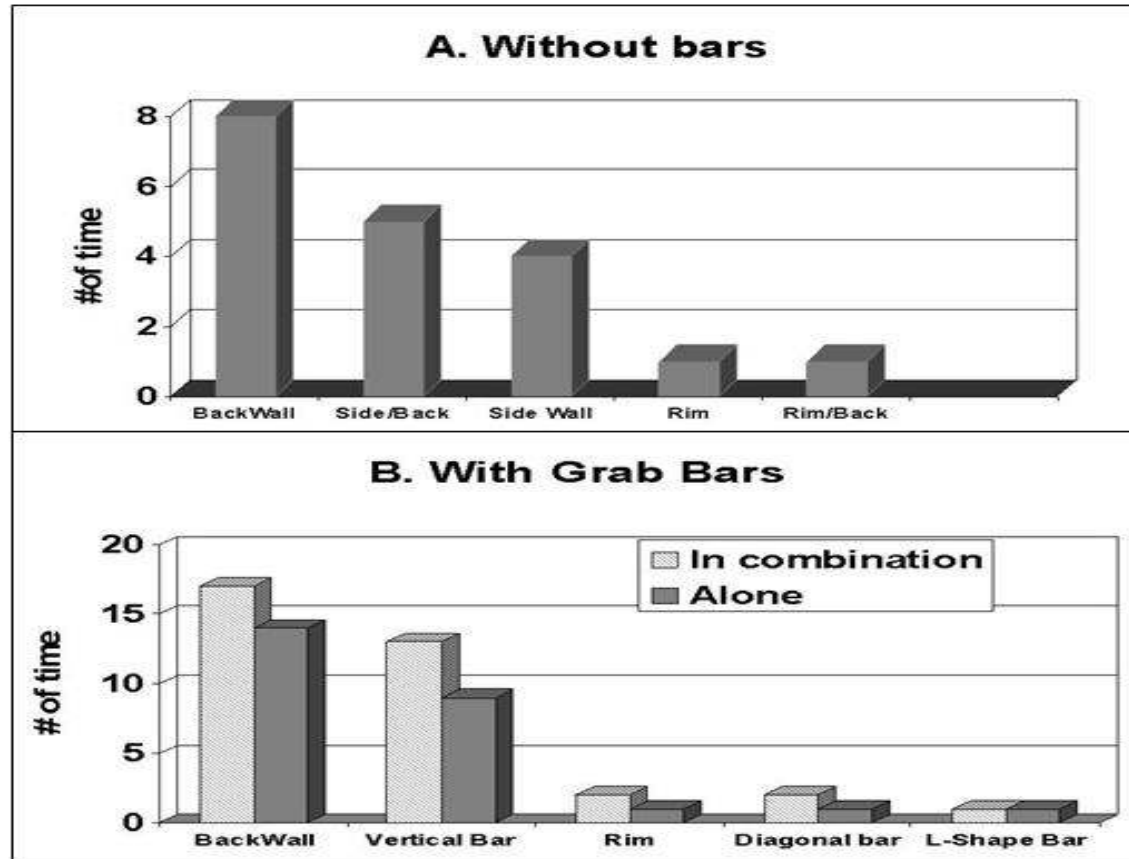


Ottawa Carleton Common Configuration (OCCC)



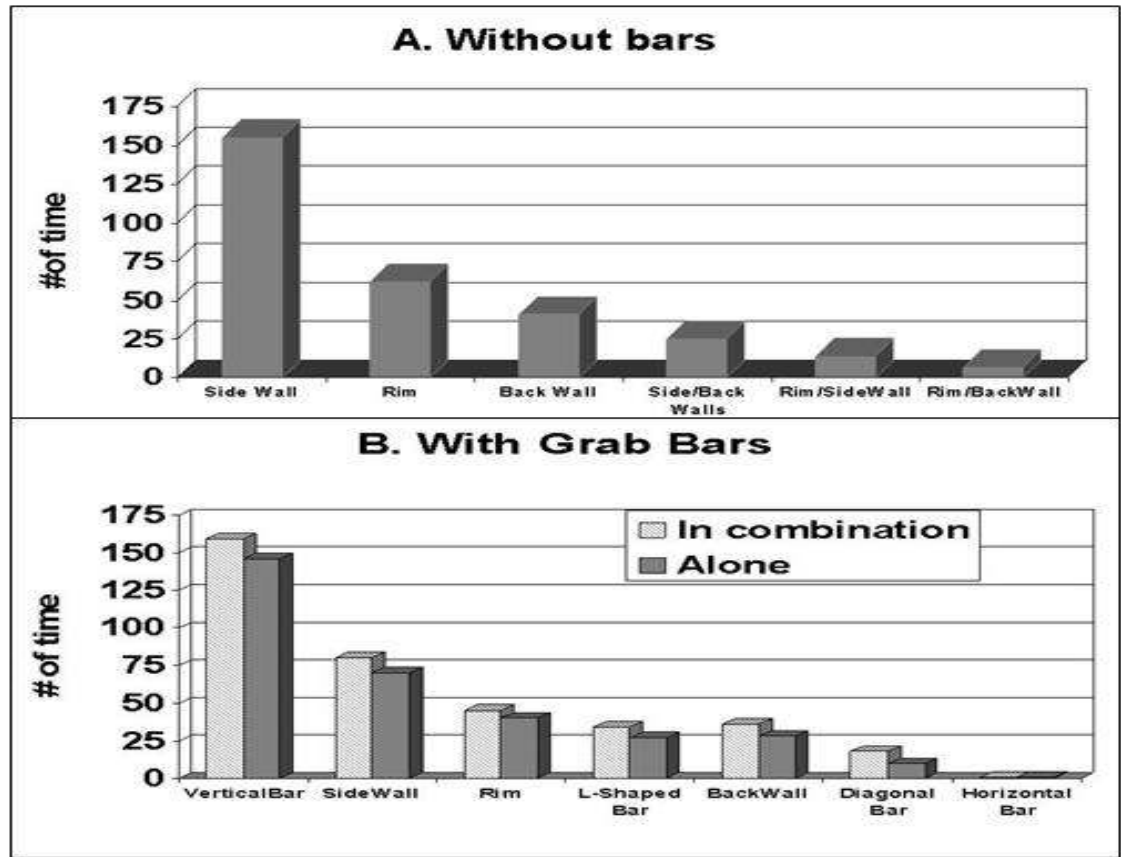
How effective are bath grab bars when balance is lost?

RESULTS- Younger adults



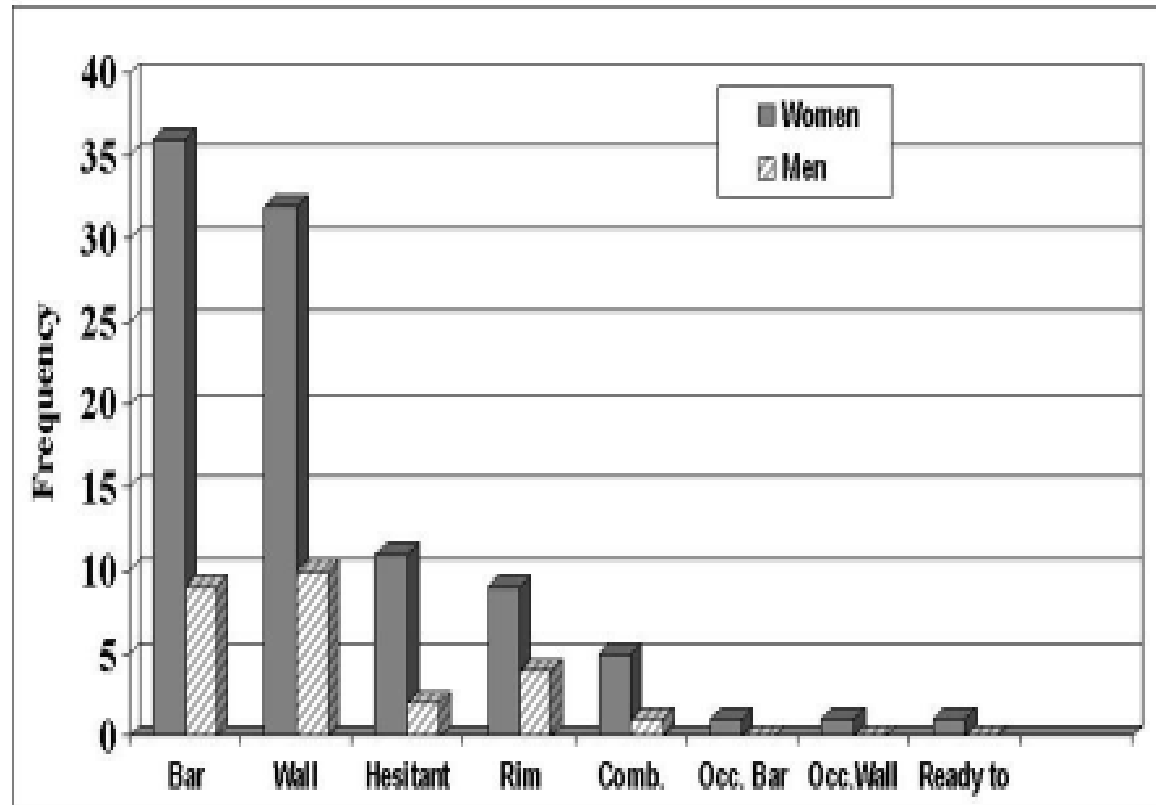
How effective are bath grab bars when balance is lost?

RESULTS- Older adults



How effective are bath grab bars when balance is lost?

RESULTS- Influence of balance loss



How effective are bath grab bars when balance is lost?

RESULTS- 3 months follow-up N=55

- 5 participants had purchased grab bars
- Most frequently reported reasons for not purchasing grab bars :
 - “don’t need them now “(n= 33);
 - “too young” (n=7);
 - “only take showers” (n=7);
 - “already installed” (n=5);
- “26 participants (47%) were considering using grab bars in the future
- 23 participants recommended grab bars to others

DISCUSSION

- Younger adults rarely use grab bar even when balance is lost; older adults had to use them more
- The phase of the transfer does appear to influence bar use
- Stigma associated with grab bars
- Is universal access possible?



Key Messages.....

- Both groups preferred presence of grab bars as they increase the sense of security although younger adults rarely used them
- To ensure safety in all phases of bathtub transfer, a minimum of two bars is required: one on the sidewall and another on the back wall.
- Building codes should be revised to include a minimum of two grab bars.



Key Messages.....

- Need to more fully explore reasons for discord between perception of usefulness and actual use
- Two bars minimum
 - Vertical (horizontal) on entry wall
 - Angled or horizontal on back wall
- Rim surface materials crucial



Key Messages.....

The presence of a grab bar does not ensure that it will be used!!!

Stigma associated with bars must be broken

The configuration installed must meet the needs of the user

Future research

- How grab bars are used when balance loss occurs while sitting down into or getting up from the bathtub?
- Which bar (horizontal, L-shaped or vertical) is most useful on the sidewall?
- Which bar is most useful on the backwall to help as sitting down /standing up from the tub?
- Is a grab bar on the rim as useful as one on the sidewall when entering/exiting the bathtub?
- How a wet and slippery surface affects the use and usefulness of grab bars?
- And what about toilet grab bars???

ACKNOWLEDGEMENTS

- Collaborators:
 - Dr Nancy Edwards, Dr Donna Lockett
- Studies funded by Canadian Mortgage and Housing Corporation
- Participants
- Research assistants



Comments/ Questions from Participants

Your comments and questions please.....



- What can 'next steps' be to address this issue?
- What opportunities for action are on the horizon? (what, when, where, how to take advantage of these opportunities)
- Who do you need to hear from next on this issue/topic?
- What other information would help?

Thanks for joining in!



For more information about CHNET-Works! and future Fireside Chats

www.chnet-works.ca

- **Please contact the CHNET-Works! Animator if you are interested in collaborating on future fireside chat discussions**

Related Resources

CMHC Research Highlights Evaluation of Optimal Bath Grab Bar Placement for Seniors

- <https://www03.cmhc-schl.gc.ca/b2c/b2c/init.do?language=en&shop=Z01EN&areaID=0000000032&productID=00000000320000000021>
- CPHA Resolution 2007: Fall Prevention and Building Codes
- http://www.cpha.ca/uploads/digest/digest_xxxi-3-e.pdf