

## INTRODUCTION

### WELCOME TO THE SAFE USE OF BEDSIDE RAILS

The information contained within this package is for training purposes only and is an interpretation of good practices from various sources.

SLIDE 1

It must be supported by practical application of the principles and adequate supervision and monitoring to ensure that the standards outlined are achieved and maintained.

This programme was produced by BUPA with support from the Health and Safety Executive.

You can move through this programme by using the next and back buttons shown below.

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During the course of this programme we aim to cover the following:-

1. Terminology
2. Why use Bedside Rails?
3. Risks/Accidents/Causes
4. Alternative Methods
5. Risk Assessments
6. Selecting A Safe Bedside Rail
7. Bedside Rail Dimensions
8. Correct/Safe Fitting of Bedside Rails
9. Bedside Rail Bumpers & Mattress Overlays
10. Typical Problems
11. Maintenance/Monitoring /Checks
12. Summary
13. Test Your Understanding

SLIDE 2

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### SECTION 1 - TERMINOLOGY

For the purpose of this training programme we will use the term Bed Rails, however here are some common names that you may also use or have heard being used:-

Safety Sides, Side Rails, Bed Guards, Bedrails, Cot sides

DO NOT confuse bed grab handles with bedside rails. Grab handles are only designed to aid getting in and out of bed and movement whilst in bed.

Remember, bedrails must ONLY be used as a last resort.

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For the purpose of this training programme we will use the term **occupant** when referring to the patient or resident.

We will also use the term **establishment** when referring to the hospital, care home etc.

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## **SECTION 2 – WHY USE BEDRAILS**

### **Safety is paramount.**

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1. Bedside rails are used in Care Homes, Hospitals, Nursing Homes, Residential Homes and in the Community, to reduce the risk of falls from a bed. They are not intended to limit the freedom of movement, they are not meant to be used to restrain people and they are not to be used as grab handles.

2. It is extremely important to ensure that all staff who operate bedside rails are fully aware of the risk assessment process and the safety aspects to be considered and followed when working with bedside rails to ensure the safety of the occupant.

SLIDE 6

There have been a number of incidents involving bedside rails that have led to injury or death. You MUST therefore be aware of the hazards associated with the use of bedside rails and how to use them safely.

The following pages will explain the hazards associated with their use, the safe use of bed side rails and alternative methods to consider.

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## **SECTION 3 RISKS, ACCIDENTS & CAUSES**

Although the use of bedside rails is primarily to prevent an accident occurring there are numerous risks associated with their use.

We need to consider how the use of bedside rails could cause injury to the bed occupant.

By no means an extensive list the following are some risks associated with the use of bed side rails, the most serious threat being entrapment of the head or neck.

SLIDE 8

- ❖ Entrapment
- ❖ Hitting their head on a bedside rail if restless
- ❖ Attempting to climb over the bedside rail
- ❖ Climbing over the bedside rail and falling onto the floor
- ❖ Unlatching the device
- ❖ Moving to the end of the bed and climbing over the footboard, (if fitted)
- ❖ Violently shaking the bedside rails and dislodging them

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### **Serious Accidents**

To put the risks associated with the incorrect use of bed side rails into context, there have been more than 20 reported fatalities in the UK since 1997 due to bed side rails. The problem is not confined to the UK and more than 150 fatalities have been recorded in the USA since 1995.

The causes of these deaths were as a result of:

- ❖ Head trapped either between the bedside rail bars or between the bars and the mattress
- ❖ Neck trapped between the end of the bed rail and the headboard
- ❖ Patient hanged after slipping through the space between the bed side rail bars

- ❖ Patient rolled off the bed over the top of the bedside rail

Here are some examples of typical causes of accidents involving bed side rails:

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**(Roll over ‘GO’ and then roll over the discs with your mouse for further details).**

Slide 11

Bedside rails unsuitable for the occupant	Occupant could climb over the bedside rail and fall to the floor
Incorrect bedside rail for the type of bed	A pressure sore overlay system could be used on a bed which had a bedside rail fitted. Remember that the extra height of the mattress makes the bedside rail less effective as its easier for the occupant to fall from the bed, over the bedside rail. A higher rail would need to be considered.
Bedside rail not fitted in accordance with manufacturer’s instruction	Occupant had a very small head which became trapped between the headboard and bedside rail causing asphyxiation. When fitting bed rails manufacturer’s instructions <b>MUST</b> always be followed.
Poorly maintained equipment	Such as bent rails , loose fixings/brackets allows movement of bedrails that increases gaps which therefore creates entrapment risks. It is everyone’s responsibility to check equipment and report faults.
Incorrectly fitted and incorrectly adjusted bedside rails	A locking mechanism under the mattress to secure the bedside rails against the side of the bed was missing. The bedside rail moved creating a gap entrapping the occupant who subsequently died. This could be due to not following manufacturer’s instruction or poor maintenance.
Poor design	For example, very large spacing between the rails, a bedside rail bar with a bar width spacing of 170 mm (must not exceed 120 mm) was used for an elderly resident in a nursing home. The resident asphyxiated as a result of head entrapment when the body slipped between the bars.

**SECTION 4 – ALTERNATIVE METHODS**

It’s important to remember that the use of bedside rails should never be normal practice and that they must be used with care.

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Always remember that some clinical conditions and people's abilities mean they are at greater risk of injury when bedside rails are in use. These may include the elderly and immobile, confusion, cerebral palsy, dementia, micro or hydrocephalus, learning difficulties, Huntington's and Parkinson's.

Before using bedside rails ask yourself the following two questions:  
Is the occupant likely to fall from their bed?  
Is a bedside rail the best solution?

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**Always consider the following alternative methods before using bedside rails;**

SLIDE 13

- Use of variable height bed to bring it closer to the floor.
- Something placed on the floor to cushion a fall. Remember that a risk assessment would then be required to review risks for both staff and occupant through handling, slipping and tripping hazards.
- Can an alarm system be used to alert staff that someone has moved from their normal position?
- Use of wedges/bolsters.

Some occupants may also be bedside rails and see their use as a loss of dignity. Always weigh up the occupants wishes against safety issues to find the best solution.

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**RISK ASSESSMENTS – SECTION 5**

A risk assessment **MUST** be carried out for each occupant for whom bedside rails are being considered. Bedside rails must not be used before a risk assessment has been conducted.

SLIDE 14

If the answer is yes and there is not another suitable alternative, then you need to choose a rail that is suitable for use in combination with.....

- THE BED**
- THE MATTRESS**
- THE OCCUPANT**

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**DON'T FORGET** that if the bed/mattress, the occupant or the rail is changed, the risk assessment must be carried out again.

It's important to stress that:

- The finding of the risk assessment must be recorded in the occupant Care Record
- Following the risk assessment a Care Plan must be written up
- A review of the assessment must be recorded in the persons Care Records every month

Findings of the risk assessment must be reviewed following;

- Each significant change in the occupant condition
- A change in the use of the equipment e.g. a new mattress overlay or just a new mattress since the replacement may be smaller, creating gaps between the mattress and bedrails.

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Always discuss the risk assessment with the occupant or next of kin to see if they agree with the assessment any alternative methods of care.

SLIDE 16

Families quite often have expectations that bedside rails will be used out of concern for the safety of their family members, not realising the potential risk and that they may not be the best approach for their relatives. Every effort must be made to involve the family in the decision making and to explain the policy and guidance on bed rails.

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## **SECTION 6 – SELECTING A SAFE BEDSIDE RAIL**

You now need to decide how to choose a safe bedside rail  
Before selecting a bedside rail you should ask yourself a few key questions  
**(Use you mouse to roll over the ? images for further information)**

SLIDE 17

- ⓐ Are the standards and guidance relevant to selecting a bedside rail – including the BSEN available?
- ⓐ Are the bedside rail and bed compatible?
- ⓐ Are spaces between the bars an entrapment hazard?
- ⓐ Do the manufacturers provide guidance about when the use of bedside rails may be inappropriate?
- ⓐ Is it to be used with a small person?
- ⓐ Does the person have an abnormally large or small head?

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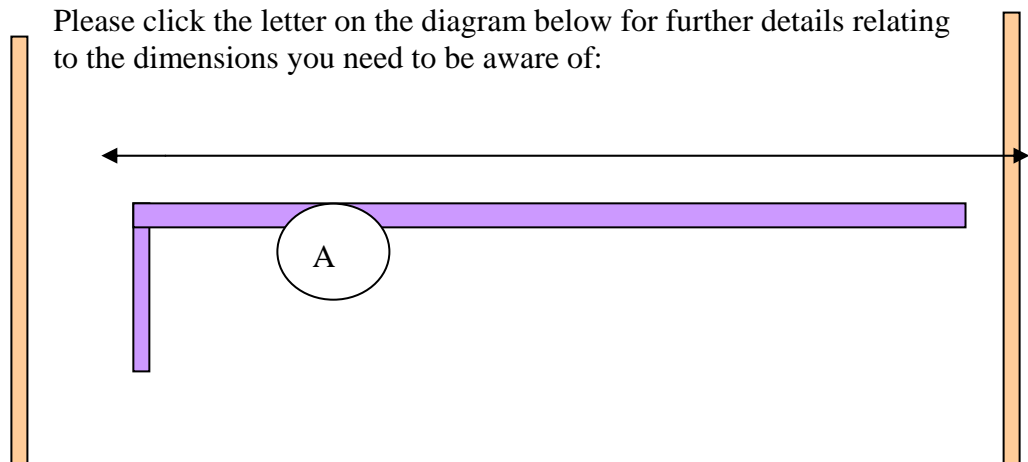
The minimum and maximum dimensions that apply to the construction and fitting of bedrails are absolutely critical

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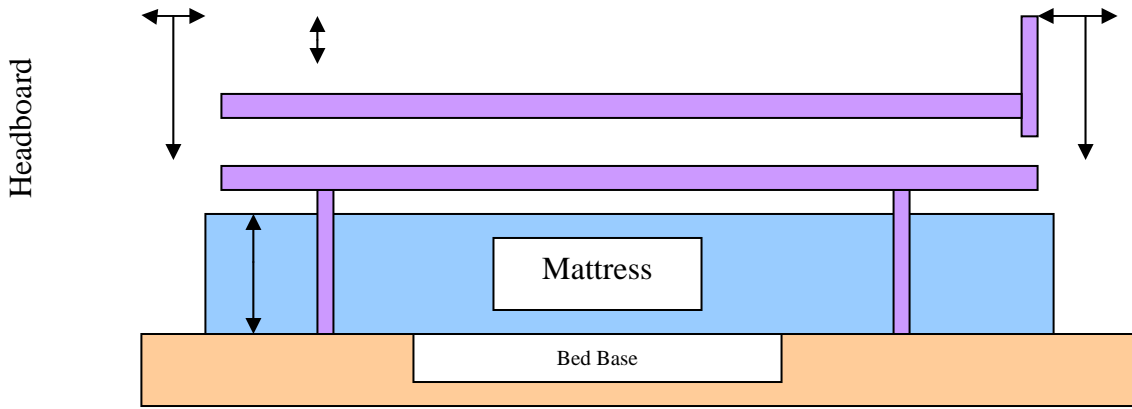
Lettering and dimensions taken from BSEN 19702000

## **SECTION 7 – BEDSIDE RAIL DIMENSIONS**

Please click the letter on the diagram below for further details relating to the dimensions you need to be aware of:



SLIDE 19



Footboard if applicable

## Section 7 – Bedside rails dimensions

SLIDE 20 – click on 'A';

Dimension 'A' is the distance between the bars on the bedside rails  
'Click on the button below for details.

SLIDE 21

### 'Dimensions'

SLIDE 22

This is to prevent an occupant slipping between the rails and becoming trapped.

Dimension A is the distance between the bars on the bedside rails and this must not exceed 120 mm.

SLIDE 23

Please click the letter on the diagram below for further details relating to the dimensions you need to be aware of: 'D' position.

SLIDE 24

Dimension 'D' is the distance between the end of the bedside rail and the headboard and footboard

'Click on the button below for details

SLIDE 25

### 'Dimensions'

SLIDE 25  
CONT

There is a risk that the occupants head could slip through the gap and become trapped between the headboard/footboard and the bedside rail.

The distance of D must be either less than 60mm or greater the 250mm

SLIDE 26

Please click the letter on the diagram below for further details relating to the dimensions you need to be aware of: 'C'

SLIDE 27

Dimensions 'C' is the height of the tip of the bedside rails above the mattress without compression and with the bed base in a flat position. Click on the button below for details

SLIDE 28

### 'dimensions'

This is so that the bedside rail is of sufficient height to ensure the resident cannot roll out over the top of the rail.

Dimension 'C' is the height of the top of the bedside rails above the mattress without compression. And with the bed base in a flat position.

This must be more than 220mm

SLIDE 29

Please click the letter on the diagram below for further details relating to the dimensions you need to be aware of:

SLIDE 30

Dimension 'F' is the greatest dimension in at least one direction of any accessible opening below the side rail to the bed base.  
Click on the button below for details

SLIDE 31

### 'dimensions'

If the gap between the mattress and the bottom rail is too large or the mattress compresses easily at its edge to create a space, then an occupant could slip through and become trapped.

If 'D' is less than 60 mm, then F must be less than 120 mm

If 'D' is more than 250 mm, then F must be less than 60 mm

SLIDE 32

Please click the letter on the diagram below for further details relating to the dimensions you need to be aware of:

SLIDE 33

Dimensions 'G' should be at least  $\frac{2}{3}$  of the distance length (i.e. length of the bed) between the headboard and footboard  
Click on button for details

SLIDE 34

### 'dimensions'

Dimension 'G' should be at least  $\frac{2}{3}$  of the distance length (i.e. length of the bed) between the headboard and footboard.

- The length of some bedside rails may be fixed, others have a variable length
- Some beds are fitted with integral bedside rails and these may run the full length of the bed.

## **Section 8 – Safe fitting of bedside rails**

SLIDE 35

Has the correct bed side rail been selected for the bed in use?

There are many different types, designs and sizes of bed side rails all with different fitting and operation methods and there are also a wide variety of beds, divans, wooden and metal bedsteads, hospital type beds, adjustable beds, etc.

SLIDE 36

It's important to ensure the bed side rail and the bed are compatible with each other.

Have the manufacturers instructions been followed to ensure safe fitting and use?

You should always refer to appropriate guidance each time you fit a bedrail.

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## **SECTION 9 – BEDSIDE RAIL BUMPERS AND MATTRESS OVERLAYS**

### **Bumpers**

SLIDE 37

Bedside rail bumpers are used for lowering the risk of impact injury and risk of entrapment. They should be air-permeable so that they do not present a suffocation risk.

They must be fitted in accordance with manufacturer's instructions. Bumpers must not be longer than the bedside rails to prevent possible entrapment risks.

Reducing the risk of entrapment.

Bumpers are primarily used for preventing impact injuries, but in some instances they can reduce the potential for entrapment. Don't take it for granted that this is their intended purpose, as their use will not necessarily reduce the risk of entrapment.

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### **MATTRESS OVERLAYS**

Extra care is needed when using air mattress or mattress overlays with bedside rails because:

SLIDE 38

If the standard mattress is replaced with an air mattress or a lightweight foam mattress, the whole bedside rail assembly, including the mattress and occupant can tip off the bed when the occupant rolls against the bedside rail. This is because many divan bedside rails rely on the weight of a standard traditional divan mattress to hold the assembly securely in place. The manufacturer should be consulted regarding securing systems, such as straps. Always ensure you comply with the manufacturer's instructions.

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### **MATTRESS OVERLAYS (cont)**

Other things to consider regarding mattress overlays are as follows:

- ④ The hazard of entrapment between the side face of the mattress and the bedside rail may be exacerbated due to the soft, easily compressible nature of the mattress edge.
- ④ If an air mattress is intended to be used with a bed rail then the mattress supplier should be contacted for advice.
- ④ Bed rails with cross bars that sit across the bed base must not be repositioned to sit on top of a standard mattress and below an air mattress or a mattress overlay.
- ④ If required, extra height bedside rails are available from bed rail suppliers.

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## **SECTION 10 - TYPICAL PROBLEMS**

SLIDE 40

Click 'GO' to see various correct and incorrect pictures relating to the fitting of bedside rails.

(Please use your mouse to drag the pictures into the right boxes)

**'GO'**

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**Right**

**Wrong**

SLIDE 41

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**CORRECT!**

The 2 examples to the right are incorrect as follows:

Overlay mattress has been added and therefore distance C is now less than 220mm and therefore the occupant could roll off the bed.

The bed rails have not been fitted in accordance with manufacturer's instructions and therefore there is an entrapment risk to the occupant.

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**TYPICAL PROBLEMS**

**Right**

**Wrong**

Slide 43

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## CORRECT!

The 2 examples to the right are incorrect as follows:-

Slide 44

The bed rail is sat on top of an existing mattress and therefore due to compression of the air mattress there is an entrapment risk to the occupant. The bed rail must be placed across the bed base.

The bracket is upside down.

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### SECTION 11 – MAINTENANCE/MONITORING/CHECKS

#### **BEDSIDE RAIL MAINTENANCE**

SLIDE 45

Managers **MUST** ensure that staff understand and follow the guidance relating to the safe use of bedrails.

Once fitted, bedside rails need to be maintained on a regular basis.

- ④ Bedside rails should be fitted according to manufacturer's instructions.
  - ④ Bedside rails must be identified with an identification/serial number. If there is no serial number on the rail, the establishment must provide their own.
  - ④ Bedside rails must be checked at least once a month by the competent person.
  - ④ Bedside rails should be checked at the same time as the risk assessment review and results recorded.
  - ④ Staff should ensure the bedside rails are safe and any faults reported straight away to the person in charge and the problem rectified.
  - ④ Staff should check bedrails for correct fitting and defects every time they are used.
- 

**Poorly fitting or damaged bedside rails must NEVER be used.**

SLIDE 46

The competent person who carries out the maintenance checks must have received training on the fitting and operation of the bedside rails at the establishment and must carry out the checks on the bed side rails in accordance with manufacturer's instructions. MHRA, HSE and local guidance.

Maintenance checks by the competent person should be carried out at the same time as the occupants risk assessments are being reviewed by a member of the care team.

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**CHECKS SHOULD INCLUDE:**

- ⓐ Ensuring the bedside rails are fitted in accordance with manufacturers instructions and the British Standard (BSEN 1970:2000)
- ⓐ Clamps/brackets are secure and a tight fit on the bed frame
- ⓐ The plastic sockets on the clamps are secure
- ⓐ There are no bends or distortions in the bedrails preventing free movement
- ⓐ There are no sharp edges or flaking chrome finishes
- ⓐ There are no entrapment risks.

SLIDE 47

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The following shows some of the questions that should be asked when checking a bed rail before use. The form is for illustration purposes only.

SLIDE 48

If any problems are highlighted during checks the person in charge or competent person must be contacted.

SLIDE 49

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Here is a list of what should be checked each time the bedside rail is operated:

On the next page please click in the yes or no column to navigate through the form: **'GO'**

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**Location of Bedrail**  
.....**Completed by: (please print name)**

1. Has a risk assessment been completed (if no, a risk assessment must be carried out before continuing)
2. Is the bed fitted with a pair of bed rails? i.e. have bed rails been fitted to both sides of the bed? (If No, then a pair of bed rails must be fitted)
3. If clamp fitted rails are used (i.e. clamped to frame) are two rails in use? (If No, this could be a hazard, take immediate remedial action)
4. Do the bed rails look and feel secure? (If No, this could be a hazard, take immediate remedial action)
5. Could they slide and or down the bed? (If Yes, this could be a hazard, take immediate remedial action)
6. Is the bed rail in good repair? (If No, this could be a hazard, take immediate remedial action)
7. Are there any loose bolts or fittings or any sharp edges? (If Yes, this could be a hazard, take immediate remedial action)
8. Have any temporary repairs been made with bits of string or wire? (If Yes, this is not acceptable and could be a hazard, take immediate remedial action)
9. Are there any gaps which could cause entrapment? (If Yes, this could be a hazard, take immediate remedial action)
10. Do the dimensions and overall height of the mattress compromise the safety of the rail? (If Yes, is an extra height bed rail needed)

SLIDE 50



- 200mm
  - More than 220mm
  - Between 150mm and 220mm
- 

Q2. What is considered to be the most serious risk associated with the use of bedside rails?

SLIDE 55

- Entrapment of the head or neck
  - Hitting their head on a bedside rail if restless
  - Attempting to climb over the bedside rail
  - Moving to the end of the bed and climbing over the foot end (if fitted)
- 

Q3. Which of the following are considered a risk assessment with the use of bedside rails?

SLIDE 56

- Bed sores
  - A cold
  - Entrapment
  - Falls
- 

Q4. Why are bed rails used?

SLIDE 57

- To limit the freedom of movement
  - To reduce the risk of falls from a bed
  - As an aide to restrain people
  - As an alternative to grab rails
- 

Q5. If a mattress needs to be changed on a bed that has bedside rails fitted, is it necessary to carry out another risk assessment?

SLIDE 58

- Yes
  - No
- 

Q6. Which of the following alternatives should you consider before using bedside rails?

SLIDE 59

- Use of variable height bed to bring it closer to the floor
  - The use of grab rails
  - A mattress overlay
  - Bed pushed against a wall
- 

Q7. Dimension 'D' represents the distance between the end of the bedside rail and the headboard and footboard. This distance should be:

SLIDE 60

- Less than 200mm
- Either less than 60mm or greater than 250mm
- More than 220mm

- Must not exceed 120mm
- 

SLIDE 61

Q8. whose responsibility is it to ensure a bedrail is in good working order?

- The Manager
  - The person in charge
  - The housekeeper
  - It is everyone's responsibility to check equipment and report faults
- 

SLIDE 62

Q9. Where would you find the dimensional requirements for fitting bedrails?

- In the manufacturer's guidance
  - British Standard BSEN 19702000 and HSE's website guidance
  - In the staff handbook
- 

SLIDE 63

Q10. How often should bedside rails be checked?

- Only when circumstances have changed i.e. when the mattress/occupant is changed
  - Every time they are used
  - At least once a week
  - When somebody reports a fault
- 

Well done! You Score 8 out of 10 higher than 70%

SLIDE 64

Please use the print button below to print off your certificate

Please use the answer button below to see the answers

When you have finished, press the 'quit' button to exit this presentation.

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SLIDE 65

Individual Q & A

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