Bed Moving Book.
Everything about driving a Hill-Rom Bed.
Introduction.

Patients are frequently transported in the hospital bed which can place a large physical demand on operators and porters, particularly when the bed is moved in confined spaces and through narrow, busy corridors. However, strain and stress to the musculoskeletal system can be avoided as long as the operator uses the right equipment skillfully.

This booklet is designed to increase both your efficiency and your safety by allowing you to effortlessly manoeuvre and transport a patient in bed. Our recommendations apply whether you transport a bed from the foot or the head end, with one or more persons. By promoting correct postures and techniques, they will help to support your battle against musculoskeletal pain in the healthcare profession.
Check the brakes.

This patient needs to be transferred in the bed. Make sure the bed is unplugged and wheels are not braked before you start pushing or pulling. Pulling or pushing a bed with braked wheels can seriously injure your body.
Check the wheels.

Make sure the wheels are in the direction of intended movement. If they are not, then make a slight sideways movement of the bottom of the bed, by leaning against the side rails using only your body weight (1). You'll now see that the wheels turn in the right direction.
Use your power zone.

Before you push or pull the bed, make sure it is at the right height. Pull or push from your ‘power zone’. This ranges from your hips until half way up your chest. If the bed is too high or too low there will be too much stress on your shoulders or on your back. Also you will need extra force, which needlessly makes you tired during your shift.

Use your full hands when you pull.

Do not pull with your fingers. Divide the force over the stronger joints in your wrist and the small joints in your fingers.

When you pull the bed, make sure you use your full hands. This gives you a better grip.
Use your body weight.

When you pull the bed, make full use of your body weight. This is done by hanging backwards with a relaxed body \( \text{①} \). Like a windsurfer. Put one foot before the other.

In this situation the shoulder is the most sensitive, vulnerable area. The shoulder is a ‘loose’ and in a way an unstable joint. It needs to be stabilised by a coordinated action of a number of different muscles. Sudden exertion or high forces can easily lead to damage to the joint, tendons, bursae or ligaments.
Push, rather than pull.

If you can choose, pushing is better than pulling. This is not so much true for your back, neck or shoulders, but rather for the tendons in your underarm. These are the weakest part of the chain and when you push, you do not need those tendons.

Push with the lower palm of your hands.

When you push, keep your wrists in a neutral position as much as possible. Push as much as possible with the lower palm of your hand. Also keep your arms straight. Bending your arms is not really ‘wrong’, but it unnecessarily costs energy.

Beware of extreme wrist positions. Most parts of your musculoskeletal system, like your legs, arms and knees are strongest in neutral or middle positions.
Build up the force.

Start the movement slowly and build up the power gradually. Count in your head until three. At ① and ② start building up the force, and at ③ the bed starts moving. In most cases, depending on your own body weight and the weight of the patient, it is enough to lift the foot that is closest to the bed ④. The bed will now move without any effort. Building up the force seriously reduces the chance of damaging your muscles, tendons, bursa, ligaments … and getting pain.
Do not start explosively.

⚠️ This is the most important ‘do not’ in manoeuvring beds. However, for a lot of operators this is common practice. Please take care, because you can get injured seriously by starting the movement explosively.

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Stop gently.

Building up the power slowly is not only important for starting. Stopping the bed with a jerky movement will also seriously increase the stress on your body. Nor is it very comfortable for the patient. Stop the bed in a gentle way by leaning backwards, making best use of your bodyweight (1).

Stopping the bed with a jerky movement seriously increases the stress on your body. And it is not very comfortable for the patient.
Do not twist your back.

Although your back is an amazingly smart system, twisting frequently while you are pushing a bed easily leads to back stress. This is why it is important to use the steering wheel or the fifth wheel. Otherwise the bed will drift and you must twist your back to keep it in line. The same happens when you have a supermarket shopping chart with one bad wheel. To keep it in line you have to twist your back.

Never pull with a twisted back.
This easily leads to overexertion and pain.
Stay in line.

Always push the bed without twisting your back. Also when you make a turn. When you are on your own, a steering wheel or a fifth wheel makes this really easy. Otherwise the bed will not stay straight and it will cost you a lot of effort and possible twisted postures, to keep the bed in line. But also when you drive the bed with a colleague a steering wheel or a fifth wheel is much more comfortable.

The operator is pushing the bed and it drifts because there is no steering wheel or fifth wheel.
Try it!

You have a steering wheel when you block (not brake) one of the wheels of your bed. You do this by putting the brake/steer pedal in the up position. Now one of the wheels cannot swivel anymore. This will help you to keep the bed in line, not to twist your spine and to prevent pain.

Make sure the steering wheel is located on the opposite end from which you generally push the bed.
Use the fifth wheel.

The fifth wheel is an extra wheel in the centre of the bed. When the brake/steer pedal is up, your fifth wheel is operated. This smart feature makes it easier to keep the bed in line.

On top of this you need less space to manoeuvre, which is great in cramped spaces.

If your bed has a fifth wheel you can operate it by pulling up the brake/steer pedal. When you hear a click the fifth wheel is in action. If you do not hear the click and feel the bed ‘drift’, stop the bed and push the bed sideways very, very lightly until you hear the click.
Also a full turn is really easy to make when the fifth wheel is operated. Steer the bed as you are pushing around the corner.

Try it. It’s fun.
Crammed places? Unlock the fifth wheel or your steering wheel.

Basically you can almost always keep the steering wheel or the fifth wheel operated. Only when you have to push the bed sideways in a confined place, it is better to release the steering wheel or your fifth wheel. You do this by putting the brake/steer pedal in the middle position. When you hear the click the wheel is released.

Now all four or five wheels can swivel. The bed now moves like a cart in a supermarket. Hard to keep in line, but easy to move sideways.

Again, beware not to twist your back. This might mean that you have to walk around the bed and take it with you. Also, remember never to make jerky or explosive movements. You can use the side rail to lean against in order to start the motion. When you use your body weight properly, you sometimes do not even need to use your arms.
Look forward.

When you move the bed through the corridor always look as far ahead as you can.
Cooperate.

In some hospitals patients in beds are transported with two operators. This is because in a case of emergency it can be preferable to have two operators instead of one. Ergonomically there is no need to drive Hill-Rom beds with two operators. However, when two operators are involved first put the bed at a level that is suitable for both operators as much as possible. If the board at the head end is not height adjustable, position the operator with a height that suits the height of the head end board at the head end. As the foot end board is height adjustable the other operator can be shorter or taller.

As soon as the bed starts moving, the operator who is pulling the bed turns around and walks at the side of the bed. He/she is not really pulling anymore but makes sure the patient is transported safely.
Count.

When you drive the bed with two operators, always start the movement exactly at the same time. Do this again by counting until 3. Build up the power at ① and ② and start moving at ③.
Keep it rolling.

Plan the journey appropriately to reduce the likelihood of having to start and stop the bed e.g. remove obstructions, escort member of staff to assist with opening doors etc. This should reduce the pushing forces for the staff involved and reduce the discomfort experienced by the patient due to the numerous starts and stops.

Each stop is tiring for you and bothersome to the patient. So, keep it rolling.