As a result of prolonged overuse, wear and tear, trauma, or surgery the muscles arising from the shoulder blade and attaching to the top of your humerus (arm bone), the rotator cuff muscles can become completely torn (massive rotator cuff tear, see image 5). This means you are no longer able to easily lift your arm. However there is another powerful muscle on the outside of your arm, called the ‘deltoid’ muscle that can be re-educated to compensate for the torn rotator cuff. 

The following exercises should be **done three to five times a day** to strengthen your deltoid muscle. It will reduce your pain and improve both the range of movement and your arm function.

These exercises must be done for **at least 12 weeks** and must always be performed starting lying down to begin with. Initially it’s best to do the exercises under the supervision of a qualified physiotherapist.

As confidence increases you will want to progress the exercise (1-5), the starting position is lying, this can gradually be increasing to incline sitting, then into full sitting and then standing position. Start by laying on your bed and adding one pillow behind your back, build on this one at a time, this adds gravity and makes the process harder. Each time you add one pillow it’s important to carry out and achieve each of the three exercises and try their additional challenges.

1. **Short lever exercises**

   Lay on your back, rest your elbow upon a rolled towel, bend your elbow as far as possible (image 2). Flex the shoulder to 90 degrees so the elbow points straight up to the ceiling. Use your other arm to help lift, but try to make your shoulder muscles work.

   Return to the start position.

   Repeat until fatigue, aim for five minutes.

   **Addition:**

   - With your elbow pointing to the ceiling try making circles with your elbow (image 3).

   Repeat until fatigue, aim for five minutes.
Lay on good side, bend elbow as far as possible bringing your hand to your chest. Try to lift your elbow up and out to the side and away from your body. Stop when elbow points to the ceiling and slowly lower back to your side (image 4).

Repeat until fatigue, aim for five minutes.2-3

2. Circles in the air

Once the shoulder can reach 90 degrees with the elbow pointing to the ceiling, try straighten the elbow and point your finger to the ceiling (image 5). Make circular movements with your index finger, add your wrist, then your elbow and finally if tolerated small shoulder and whole arm circles. Clockwise then counter clockwise.

Repeat until fatigue, aim for five minutes.2-3

Addition: □ Increase the size of the circle as the weeks move on and strength improves. □ Add a small weight to your hand..........kg

3. Punching the air

Lay on your back, rest your elbow upon a rolled towel, bend your elbow into the position shown (image 6). Punch your hand straight up into the air, hold for a second, then lower with control back to the start.

Repeat until fatigue, aim for five minutes.

Addition: □ Add a small weight to your hand..........kg
4. Crosses in the air

Once the shoulder can reach 90 degrees with the elbow pointing to the ceiling, try straighten the elbow and point your finger to the ceiling (image 7).
Move your arm up and down in line with the side of your body.
Repeat until fatigue, aim for five minutes.

Return to the finger pointing position. Now move the arm out to the side and then back crossing the midline.
Repeat until fatigue, aim for five minutes.  

Addition:  □ Make the crosses bigger.
□ Hold a weight ..........kg then make crosses.

5. Active assisted with resistance

Once the shoulder can reach 90 degrees, straighten your elbow and hold onto this elbow or your other hand (image 8). In the early stages you may choose to hold onto your hand rather than the elbow.
Move your arm up and down in line with the side of your body. Use your good hand to provide resistance to this movement, this will strengthen your muscles.
Repeat until fatigue, aim for five minutes.

6. Lateral rotation with weight

Stand with your elbow bend and hand in a fist position. Keep your elbow by your side.
Rotate your shoulder, so your hand moves out away from your side, hold for a second, then move it back into your body.
Repeat until fatigue.

Addition:  □ Hold a weight ..........kg.
7. Eccentric deltoid exercises ‘Bell ringing’

Begin by tying a knot in the band and placing the knot over the top of a door, then close the door to seal the knot on the other side. Allow the band to hang down from the top of the door. Grasp the other end of the band as high up as you can reach with your affected arm (position one), make sure there is slight tension in the band.

Pull your arm downward in an arc, so your hand is by your side, keep your elbow straight (image 9), you can use your good hand to help.

Hold in position for a second, check your shoulder posture is square and set well.

Then slowly to the count of three, lift your arm back up into position one, make sure this is a smooth controlled movement. Aim to get the hand as high as possible with a straight arm.

Repeat until fatigue, aim for five minutes.

Addition: Change your body position to side on with the door, perform the same exercise but have your arm out to the side (image 10). Repeat until fatigue, aim for five minutes.

References
1) The Torbay protocol. https://www.shoulderdoc.co.uk/article/1028 [online 12-5-16]