

CLAIMS

1. A shoulder rehabilitation device comprising:
an elongated structure configured to support an arm of a patient, the patient being in a lying position; and
a force generator mounted to the elongated structure and configured to apply a traction force on the arm in a distal direction relative to the arm,
wherein the elongated structure is rotatable about a pivot adjacent a shoulder joint of said arm; and
wherein the force generator is further configured to control the traction force to be within a predetermined range.
2. The device as claimed in claim 1, wherein the elongated structure is supported by a stand, and wherein a height of the stand is adjustable.
3. The device as claimed in claim 2, wherein the elongated structure is pivotable relative to the stand between an extended first position in which the elongated structure is substantially perpendicular to the stand and a folded second position in which the elongated structure is substantially parallel to the stand.
4. The device as claimed in claim 2 or 3, wherein the stand is removably mounted on a base, and wherein the base comprises a plurality of wheels.
5. The device as claimed in claim 4, wherein at least one of the wheels is configured to be driven by a motor.
6. The device as claimed in any one of the preceding claims, wherein the elongated structure comprises a proximal end and a distal end opposite the proximal end, and wherein the force generator is mounted at the distal end of the elongated structure.
7. The device as claimed in claim 6, wherein the force generator comprises:
a wrist cuff configured to securely wrap around a wrist of said arm;
at least one strap extending distally from the wrist cuff; and
an elastic member connected to the at least one strap and extending toward the distal end of the elongated structure.

8. The device as claimed in claim 7, wherein a length of the at least one strap is manually adjustable for generating the traction force.
9. The device as claimed in claim 7, further comprising a motor configured to pull a distal end of the at least one elastic member for generating the traction force.
10. The device as claimed in claim 8 or 9, further comprising a force sensor configured to measure the traction force.
11. The device as claimed in claim 9, further comprising a controller coupled to the at least one motor and configured to control the motor.
12. The device as claimed in claim 10, further comprising a display configured to display the traction force.
13. The device as claimed in claim 10, further comprising at least one visual indicator configured to generate a visual notification if the traction force is outside the predetermined range.
14. The device as claimed in claim 10, further comprising at least one audio indicator configured to generate an audio notification if the traction force is outside the predetermined range.
15. The device as claimed in any one of claims 7 to 14, wherein the force generator further comprises an upper arm cuff configured to securely wrap around an upper arm region, the upper arm cuff being connected to the wrist cuff.
16. A shoulder rehabilitation method comprising:
 - supporting an arm of a patient on an elongated structure while the patient is in a lying position; and
 - applying a traction force on the arm in a distal direction relative to the arm, using a force generator mounted to the elongated structure, such that the traction force is within a predetermined range; and
 - rotating the elongated structure about a pivot adjacent a shoulder joint of said arm to abduct said arm.