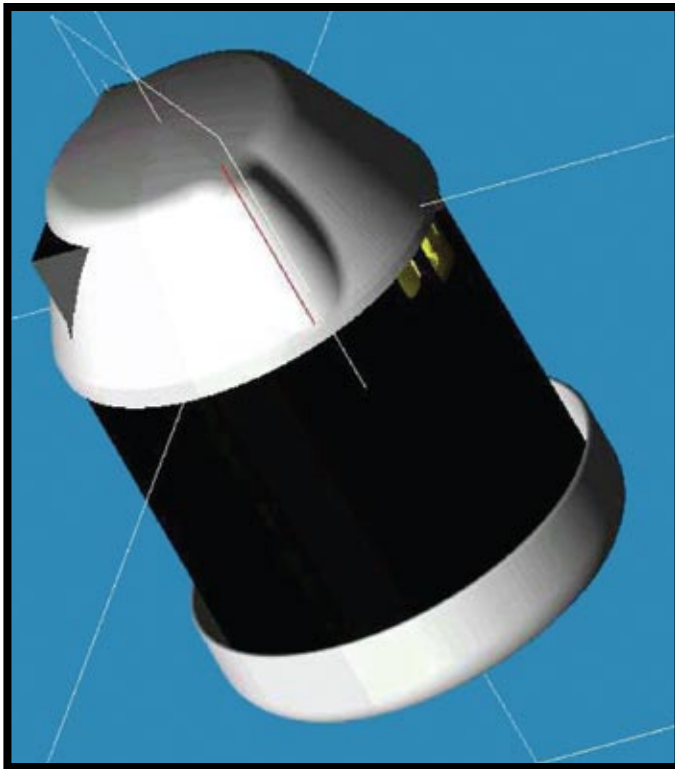


MED SYSTEMS



**ELECTRO FLO 5000
FORCE-MULTIPLYING PERCUSSOR
USER MANUAL**

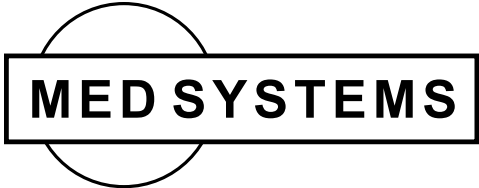
www.medsystems.com

800-345-9061

2631 Ariane Drive • San Diego, CA 92117

MADE IN THE USA

U.S. PATENT NO. 4,387,708 and other patents pending. FDA: K031876



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Read this guide completely before using your Percussor.

CAUTIONS

- Keep this device out of the reach of children.
- Do not use this device with or in water.
- Do not submerge this device.
- Do not use oil or autoclave.
- Do not use in the presence of flammable anesthetics.

**FEDERAL LAW RESTRICTS THE DEVICE TO BE SOLD
BY OR ON THE ORDER OF A PHYSICIAN OR
LICENSED PRACTITIONER.**

INTRODUCTION TO PERCUSSION

Percussion has long been held as the best method for loosening trapped mucus within the lungs. Historically, the first and still the most common percussion devices used for respiratory therapy are the human hands. At the turn of the century, inventors made attempts at hand held percussion devices but these manual tools were hard to hold and awkward to use.

The recommended percussion is rhythmic striking of the chest wall with cupped hands. Even therapists and clinicians can tire, while caregivers and family members may lack consistency with traditional percussion. Manual chest percussion is very time-consuming and also may require another person.

There have been a variety of apparatus utilized for chest physical therapy (CPT) with varying success and difficulty. But none has been able to surpass the tried and true method of hand percussion.....until now.

The MED SYSTEMS Force-Multiplying Percussor offers the effectiveness of hand percussion with the efficiency and freedom only available with this new advanced digital electronic product.

The FORCE-MULTIPYING PERCUSSOR:

- Is designed for convenient, personal CPT
- Can be self-administered over individual lobes
- Is automated, consistent, true percussion, not massage
- Precisely controls power and frequency of percussion separately
- Varies from light tapping to major impact
- Delivers deep, pulse percussion
- Is lightweight, compact and portable.

SUGGESTED USES

The Force-Multiplying Percussor is intended to assist in airway clearance therapy (ACT) when the physician's choice of therapy is external manipulation of the thorax. ACT helps patients stay healthy and breathe easier. ACT loosens thick, sticky lung mucus so it can be cleared by coughing or huffing. Clearing the airways reduces lung infections and improves lung functions.

People who may benefit from the Force-Multiplying Percussor exhibit a wide range of problems that make it difficult to clear secretions from their lungs. Physicians may prescribe this for those with:

- Cystic Fibrosis
- Bronchiectasis
- Chronic Bronchitis
- Chronic Obstructive Pulmonary Disease (COPD)
- Chronic Emphysema
- Occupational Lung Disease
- Pneumonia
- Pulmonary Edema
- Asthma
- Neuromuscular diseases like Guillain-Barre syndrome
- Progressive muscle weakness like Myasthenia Gravis
- Lung Abscess
- Tetanus
- Cerebral Palsy
- Muscular Dystrophy
- ALS
- Other lung obstructive conditions

Indications and recommendations for therapy are described by the American Association for Respiratory Care (AARC) in the Clinical Practices Guidelines for Postural Drainage Therapy. (1991)

PRECAUTIONS

Not intended for infants or children less than 50lbs. Patients who have severe calcium deficiencies or severe osteoporosis should not be administered percussion.

Always check with a physician before beginning or continuing percussion to patients who:

- Have just eaten or are vomiting;
- Have acute asthma or tuberculosis;
- Have brittle bones, broken ribs or severe osteoporosis;
- Are bleeding from the lungs or coughing up blood;
- Are experiencing intense pain;
- Have increased pressure in the skull;
- Have head or neck injuries;
- Have collapsed lungs or a damaged chest wall;
- Have recently experienced a heart attack;
- Have a pulmonary embolism or lung abscess;
- Have an active hemorrhage;
- Have injuries to the spine;
- Have open wounds or burns; or
- Have had recent surgery.

DIRECTIONS FOR USE

PREPARATIONS:

Begin by gathering all necessary materials such as tissues, pillows, and towels. At this time, patient may be placed in a postural drainage position if desired.

- Never percuss over bare skin. Use a towel between the patient and the percussor.
- Never percuss directly over the shoulder blade, collar bone, spine, breast bone (sternum) or breasts.



FIGURE 1-1, TABLE-TOP MOUNT

OPERATION: TURN ON

Remove equipment from carrying case and set-up near the patient. There is a 10' power cord from the control box to an outlet and a 6' cord between the control box and the power head. Before plugging the unit into 120 volt electrical supply, turn both knobs counter clockwise. See Figure 1-2 below. Plug the unit into a 120 volt outlet. The green indicator light will come on showing power is on and fan is running. The unit may cycle once. This is normal. The blue indicator light for speed will not be on and there will be no percussive action.

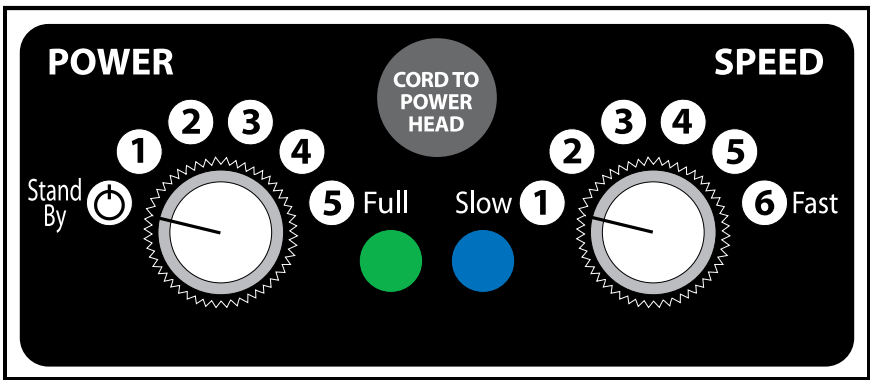


FIGURE 1-2, CONTROL PANEL

Green Light = POWER ON • Blue Light = SPEED RATE

OPERATION: USE

Start at the lowest setting of power and speed. Hold the Force-Multiplying Percussor by placing the palm of your hand over the rear of the power head as shown in Figure 1-3. Let your fingers straddle the edge of the cover. Be careful not to block the fan air flow. Placing your hand over the rear cover allows the user to feel and control the impact of percussion. The range of speed is 5 to 25 cycles per second. The range of power impulses is equal to how hard the user presses the rear cover. No push, no impulse.



FIGURE 1-3, POWER HEAD

To achieve percussive action, turn the power knob one step from stand by to 1. This will begin low power, slow speed percussing action. The blue light will blink at the speed of percussion.

The power and speed of the percussor may be increased by turning the knobs clockwise. Percussive action will only be experienced when force is applied. The cooling fan must be running to insure successful cooling of the percussor movement.

- Techniques may be slightly different with each patient.
- Limit percussion to 20 minutes maximum. Treat 3-5 minutes per area that is being drained.
- Percussion should not hurt. If it does, you are not doing it correctly and you must stop immediately.
- Deep breaths are taken throughout the treatments.
- Coughing is a result and benefit of percussion.

OPERATION: Shut down

After use, turn the power knob counter clockwise to the “STAND BY” position. This will stop percussion and cycling power but allow the unit to cool with the fan running.

Do not unplug the unit until cooling is complete – 20 minutes. While this isn’t absolutely necessary for every use, it will extend the life of the unit.

To turn off the unit, unplug the power cord from the outlet.

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Bronchial Hygiene Guidelines Committee, American Association for Respiratory Care. AARC clinical practice guideline: postural drainage therapy. *Respiratory Care* 1991; 36: 1418-1426.

CLEANING, MAINTENANCE, AND SERVICE

After completing the percussor treatment, and cooling period, unplug the unit and wipe clean the outside of the percussor head and control housing using isopropyl alcohol (IPA) as needed.

Never immerse the unit in any liquid or steam autoclave (oven) for cleaning.

IMPORTANT: The percussor cooling fan draws in 4 cubic feet per minute of air. Therefore considerable dust and lint can be drawn into the percussor filter.

DO NOT DISASSEMBLE THE UNIT AT ANY TIME.

Only MED SYSTEMS can repair this product. Return units in need of repair directly to MED SYSTEMS.

As special tools are required, no maintenance can be performed outside the MED SYSTEMS factory. The unit can only be repaired by the factory and must be returned to MED SYSTEMS.

Return any unit which does not:

- Cycle
- Have a running fan
- Show a green light while plugged in
- Show a blinking blue light when power is turned above “stand by”
- Have percussive action with a blinking blue light & a running fan

If the percussor filter becomes clogged with lint deposits, the unit will shut off permanently. Request a return material authorization (RMA) number from customer service. MED SYSTEMS will ship a loaner unit to you. Carefully pack the percussor that you are returning in the box provided. Product exchange instructions will be included with the loaner unit.

WARRANTY

When used by trained personnel or home patient, Med Systems warrants this product against defective materials or workmanship for three years from date of purchase. MED SYSTEMS shall, upon receipt of written claim of defect, at its option, replace or repair any part which MED SYSTEMS deems defective.

This warranty does not cover ordinary wear and tear arising from the normal use of the product. The user of this product shall have the sole responsibility for any malfunction which results from improper use.

The following conditions will cause the warranty to be invalidated:

- Plugging the unit into an outlet that supplies more than 120 VAC
- Submersing the unit in water
- Operating the unit in an environment outside the specifications
- Disassembling the unit in any way
- Any maintenance performed outside the factory

The foregoing warranty is in lieu of all other warranties whether expressed or implied, including but not limited to, any warranty of merchantability of fitness for a particular purpose not existing in connection with sale or use of this product.

SALES

MED SYSTEMS products are sold factory direct via telephone and Internet. References are available on request. Please contact MED SYSTEMS to arrange for a free 30-day trial of this product or to place an order. A physicians prescription is required to purchase the Force-Multiplying Percussor.



MED SYSTEMS

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SPECIFICATIONS

Product Type: Medical Chest Percussor;
Durable Medical Equipment

Model: Model 5000

Ratings: Nominal Operating Voltage:
120 VAC, Single Phase
Supply Current Frequency:
50/60 HZ

Operating Limits:

Ambient Temperature: -10C to 35C

Relative Humidity: MAX RH 95 %; Non-Condensing

Duty Cycle: 20 minutes on; 20 minutes off

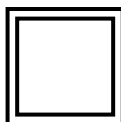
Storage and Transport Limits:

Ambient Temperature: -10°C TO 95° C.

Relative Humidity: MAX RH 95%; Non-Condensing.

Information / Regulatory:

CLASS II Electrical Device



Double Insulation-----



Product is Type BF, Patient Contact Allowed.-----

ORDINARY (IPX0), DEGREE OF PROTECTION AGAINST
HARMFUL INGRESS OF WATER.

MEDICAL EQUIPMENT WITH RESPECT TO ELECTRIC
SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN
ACCORDANCE WITH UL60601-1/CAN/CSA C22.2 NO. 601.1