LD-60, LD-61, LD-70, LD-70NR, LD-71, LD-71A, LD-80, LD-100

Little Doctor®

ENG

Blood Pressure Monitor

Instruction Manual

GENERAL INFORMATION

This Instruction Manual is designed to assist the user with safe and effective operation of the Device for measurement of blood pressure (hereinafter – the "Device"). Use this Device according to the rules described in this Manual. Operate the Device only as intended. Do not use the Device for any other purposes. Read and understand the whole Instruction Manual, in particular «RECOMMENDATIONS ON CORRECT MEASUREMENT».

INDICATIONS FOR USE

The device is designed to measure arterial pressure of human according to Korotkov method. The device is recommended for use under conditions of clinics and hospitals, as well as in household conditions as supplement to medical observation. Pressure is measured by means of auscultation of Korotkov's tones by stethoscope and by taking readings on manometer.

RECOMMENDATIONS ON CORRECT MEASUREMENTS

1. Do not use the device without preliminary consultation with Your doctor, if You undergo treatment by hemodialysis or by anticoagulants, antithrombocytes or steroids. Use of device in these cases may cause internal hemorrhage.

2. For correct measurement you should know that THE BLOOD PRESSURE IS SUBJECT TO SHARP VARIATIONS EVEN WITHIN THE SHORT TIME INTERVALS. The blood pressure depends on many factors. It is usually lower in summer and higher in winter. The blood pressure varies together with the atmospheric pressure, depends on physical loads, emotional excitement, stresses and dietary regime. Drugs, drinking alcohol and smoking produce significant effect. Even the very procedure of blood pressure measurement in a polyclinic sends the blood pressure high in many people, thus, the blood pressure measured at home often differs from the values received in a polyclinic. As the blood pressure tends to rise at low temperatures, make measurements at an indoor temperature (approximately 20°C). If this Device stayed under a low temperature, keep it for at least 1 hour at an indoor temperature before use, otherwise the measurement result may be incorrect. During a day the difference in readings for healthy people may be 30-50 mmHg of systolic pressure and to 10 mmHg of diastolic pressure. The dependence of the blood pressure on various factors is individual for each person. Accordingly, it is recommended to keep a special book with blood pressure records. ONLY A CERTIFIED DOCTOR USING YOUR RECORDS IS CAPABLE TO ANALYZE THE TENDENCY OF YOUR BLOOD PRESSURE VARIATIONS.

3. At cardiovascular and some other diseases requiring blood pressure monitoring make measurements in the hours fixed by your attending doctor. REMEMBER THAT THE DIAGNOSTIC AND ANY TREATMENT OF HYPERTENSION MAY BE CONDUCTED ONLY BY A CERTIFIED DOCTOR ON THE BASIS OF BLOOD PRESSURE VALUES OBTAINED BY THIS DOCTOR. TAKING OF DRUGS AND THEIR DOSES SHOULD BE PRESCRIBED ONLY BY YOUR ATTENDING DOCTOR.

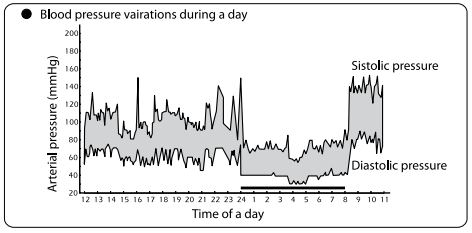
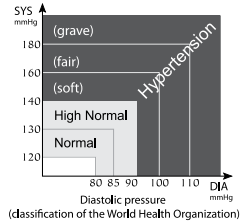


Fig. 1

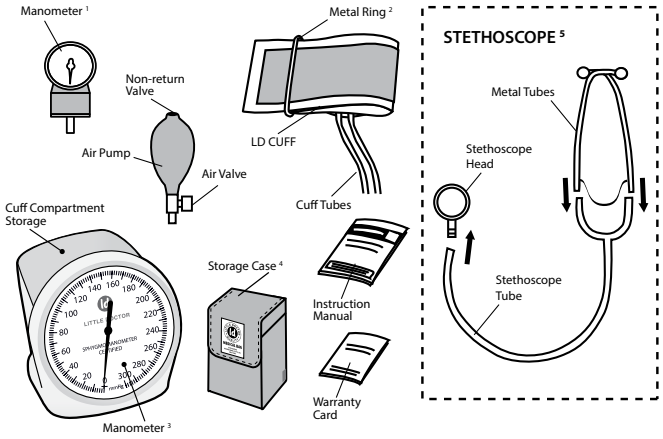
4. KEEP QUIET DURING A MEASUREMENT TO OBTAIN THE ACCURATE VALUES OF YOUR BLOOD PRESSURE WITH THE ELECTRONIC DEVICE. Measure your blood pressure in the calm and comfortable conditions at the indoor temperature. No eating an hour before measurement; no smoking, taking tonic agents, alcohol 1.5-2 hours before measurement.

5. The accuracy of blood pressure measurement depends on whether the cuff matches the size of your arm. THE CUFF SHOULD NOT BE TOO SMALL OR TOO LARGE.

6. Wait 3 minutes between measurements for the blood to restore its circulation. However, the persons with prominent atherosclerosis due to considerable loss of vascular elasticity may need to increase the wait time between measurements (10-15 minutes). This also refers to the patients suffering for long from diabetes. For more accurate determination of blood pressure it is recommended to make a series of 3 consecutive measurements and to use the average value.



PARTS AND COMPONENTS



[1] *For models LD-60, LD-61, LD-70, LD-70NR, LD-71, LD-71A, LD-80*
[2] *For models LD-60, LD-70, LD-71, LD-71A, LD-100*
[3] *For model LD-100*
[4] *For models LD-60, LD-61, LD-70, LD-70NR, LD-71, LD-71A, LD-80*
[5] *For models LD-60, LD-61, LD-71, LD-71A, LD-100*

CUFF PREPARATION

1. Insert the cuff end for about 5 cm into a metal ring as shown in the fig. 3 (if cuff is with ring).

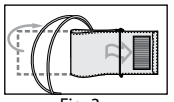


Fig. 3

2. Apply the cuff to your left upper arm so that the air tube is directed to your palm (fig. 4). If the measurement on your left arm is difficult, you may use your right arm. In this case remember that the readings may differ by 5-10 mmHg and even more.

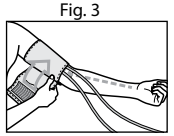


Fig. 4

3. Wrap the cuff around your upper arm so that the bottom of the cuff is approximately 2-3 cm above your elbow. The sign "ARTERY" should be over the arm artery as shown in the fig. 5.

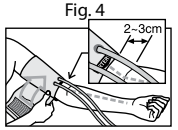


Fig. 5

4. Fix the cuff so that it fits tightly to the arm, but see that it is not overtight. Too tight or too free placement of the cuff may give inaccurate readings.

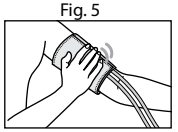


Fig. 6

5. On the fixed cuff the sign «INDEX» should point to the area «NORMAL» (fig 7). It means that the cuff is chosen correctly and fits the size of your upper arm. If the sign points to the area marked «◀» or to the left, the cuff is too small and the readings will be higher. If the sign points to the area marked «▶» or to the right, the cuff is too large and the readings will be lower.

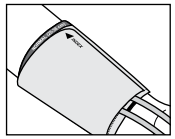


Fig. 7

6. If the arm has a conic form, the cuff should be put on with a spiral movement as shown in the fig. 8.

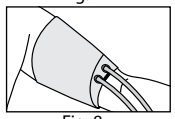


Fig. 8

7. If the rolled-up sleeve squeezes the arm interfering with free blood flow the Device may give inaccurate figures not corresponding to your actual blood pressure (fig. 9).

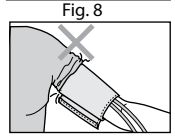


Fig. 9

8. Place stethoscope head so that it was located in depression, somewhat higher than elbow bend (Fig. 4). If You use the device with built-in stethoscope (for models LD-60 and LD-71A), to reach better auscultation of pulse on full hand, the cuff may be turned round the hand approximately by quarter of circle (60-90˚) in such way that stethoscope head would be positioned on inner side of hand (more close to the body).

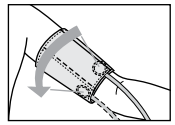


Fig. 10

9. Pressure shall be measured in sitting or lying position of human. IN SITTING POSITION WATCH THAT PART OF HAND WITH CUFF WOULD BE LOCATED AT THE LEVEL OF HEART, AND HAND WOULD BE FREELY LOCATED ON THE TABLE AND WOULD NOT MOVE.

MEASUREMENT PROCEDURE

1. Insert metal tubes of stethoscope into ears. Close air valve on air pump, having turned it clockwise. Squeezing air pump, pump up the cuff, listening to pulse by stethoscope. After You stopped to listen to pulse, pump up the cuff by 30 mm Hg more.
2. Slowly opening air valve, turning it counterclockwise, bleed down pressure in the cuff. Watch that pressure in the cuff would fall down at speed 2-4 mm Hg per second. This is necessary to get accurate result.
3. As soon as You hear weak pulse beats, memorize manometer reading. This is Your systolic (upper) arterial pressure.
4. Pressure in the cuff is continuing falling down at the same speed (2-4 mm Hg per second). You are continuing to listen to pulse. Sounds which You hear will change. Unlike the first beats, they will become softer, resembling rustling. At the moment when You practically stop seize pulse, memorize manometer reading. This is Your diastolic (lower) arterial pressure.

CARE, STORAGE, REPAIR AND DISPOSAL

1. Keep this Device from exposure to higher humidity, direct sunlight, shocks.
2. Do not keep and use this Device near heating installations and open fire.
3. Keep the Device clean and protect it from dust.
4. Contact of device with aggressive solutions is not allowed.
5. Protect the arm cuff and air tubes from contacting on sharp things.
6. This Device does not contain special controls to adjust the measurement accuracy. Independent opening of manometer is prohibited. Repair the Device only in authorized organizations.
7. Service life of device is indicated in section TECHNICAL SPECIFICATIONS. Service life is determined from the moment of commodity delivery to the customer. On expiration of the warranted service life apply from time to time to authorized repair organizations to check the technical condition of the Device.
8. Dispose of the Device and its components according to the application local regulations. No special requirements to disposal of this Device are defined by the manufacturer.
9. The arm cuff may withstand multiple sanitary treatments. The internal tissue surface of the arm cuff (contacting on arm) may be cleaned with cotton ball soaked in 3%-solution of hydrogen peroxide. At long use the partial color fad-

ing of the tissue coating of the arm cuff is possible. Washing and ironing of the arm cuff are not allowed.

WARRANTY

1. The following LD product is covered by warranty for the period specified in the warranty card.
2. The warranty period for the arm cuff is 12 months from the date of sale.
3. Warranty obligations are formalized with a warranty card when the device is sold to the buyer. The addresses of organizations providing warranty service can be found in section "INFORMATION ON THE MANUFACTURER AND DISTRIBUTORS" or on the website www.littledoctor.sg.

TECHNICAL SPECIFICATIONS

Pressure measurement range, mmHg	from 0 to 300 (pressure in an arm cuff)
Pressure indication range, mmHg	from 0 to 300
Range of admissible absolute error at measurement of air pressure in an arm cuff, mmHg	±3
Operation conditions: Temperature, °C Relative humidity, % Rh	 from 10 to 40 85 and lower
Storage and transportation conditions: Temperature, °C Relative humidity, % Rh	 from minus 34 to 65 85 and lower
Weight (without package, case): model LD-70 / LD-70NR, g model LD-71, LD-71A, g model LD-60 / LD-61, g model LD-80, g model LD-100, g	 264/237 328 390/309 351 464
Dimensions (package), mm: model LD-70 / LD-70NR, model LD-71, LD-71A, model LD-60 / LD-61, model LD-80 Dimensions (package), mm: model LD-100	 115 x 185 x 75 173 x 135 x 140
Service life of device (without taking into account pneumatic chamber and air pump), years from the moment of its delivery to the customer Service life of pneumatic chamber and air pump, years from delivery to the customer	7 3
Year of manufacture	Year the manufacture is given in the bottom of the Device body in a serial number after symbols "AA".
Country of manufacture	PRC

CUFF SIZE OF THE DEVICE:

model LD-70 model LD-71 model LD-71A model LD-100	adult's	for upper arm circle from 25 to 36 cm
model LD-70NR	adult's	for upper arm circle from 25 to 40 cm
model LD-60	big adult's	for upper arm circle from 33 to 46 cm
model LD-61	child's	for upper arm circle from 18 to 26 cm
model LD-80	for newborn infants for infants child's	for upper arm circle from 7 to 12 cm for upper arm circle from 11 to 19 cm for upper arm circle from 18 to 26 cm

COMPLETENESS

		Quantity							
Name of part	Model	LD-60	LD-61	LD-70	LD-70NR	LD-71	LD-71A	LD-80	LD-100
Manometer	Manometer LD-S013	1	1	1	1	1	1	1	–
Manometer	Manometer LD-S048	–	–	–	–	–	–	–	1
Adult's cuff with ring	Cuff N2AR Pneumatic chamber LD-S02A	–	–	1	–	1	1	–	–
Adult's cuff with ring	Cuff N2A Pneumatic chamber LD-S02A	–	–	–	1	–	–	–	–
Big adult's cuff with ring	Cuff N2LR Pneumatic chamber LD-S02L	1	–	–	–	–	–	–	–
Child's cuff	Cuff C2C Pneumatic chamber LD-S02C	–	–	–	–	–	–	1	–
Child's cuff	Cuff N2C Pneumatic chamber LD-S02C	–	1	–	–	–	–	–	–
Cuff for newborn infants	Cuff C2N Pneumatic chamber LD-S02N	–	–	–	–	–	–	1	–
Cuff for infants	Cuff C2I Pneumatic chamber LD-S02I	–	–	–	–	–	–	1	–
Stethoscope with built-in head into cuff	LD Prof-Plus (with LD-S025a head)	1	–	–	–	–	1	–	–
Stethoscope	LD Prof-Plus (with LD-S025 head)	–	1	–	–	1	–	–	1
Air pump assembly	Air pump LD-S014 Air valve LD-S015 Non-return valve LD-S016	1	1	1	1	1	1	1	1
Storage Case	Storage Case LD-S059	1	1	1	1	1	1	1	–
Instruction Manual	–	1	1	1	1	1	1	1	1
Warranty Card	–	1	1	1	1	1	1	1	1
Package	–	1	1	1	1	1	1	1	1

INFORMATION ON THE MANUFACTURER AND DISTRIBUTORS

This Device manufacturing is certified according to international standard ISO 13485:2003.

✉ **Complaints and requests should be addressed to:**
Little Doctor Europe Sp. z o.o. 57G Zawila Street, 30-390, Krakow, Poland
Service phone: +48 12 2684748, 2684749

Manufactured under control and for

Little Doctor International (S) Pte. Ltd., 7500A, Beach Road, 11-313 The Plaza 199591, Singapore. Postal address: Yishun Central P.O. Box 9293 Singapore 917699.

Manufacturer:
Little Doctor Electronic (Nantong) Co. Ltd., No.8, Tongxing Road Economic & Technical Development Area, Nantong 226010, Jiangsu, PEOPLE'S REPUBLIC OF CHINA

Distributor in Europe:
Little Doctor Europe Sp. z o.o. 57G Zawila Street, 30-390, Kraków, Poland
Sales Office phone: +48 12 2684746, 12 2684747, fax: +48 12 268 47 53
E-mail: biuro@littledoctor.pl
www.LittleDoctor.pl

Authorized Representative in the EU:
Little Doctor Europe Sp. z o.o. 57G Zawila Street Krakow 30-390 Poland

Warranty card

Model	Date of sale
Serial number	Warranty period
Buyer's name	
Seller's signature	Seal (stamp) of the selling company

To be filled out by the representative of the authorized service center

Date	Notes on servicing

www.LittleDoctor.sg

Little Doctor Electronic (Nantong) Co., Ltd.,
No.8, Tongxing Road Economic & Technical Development Area, 226010 Nantong, Jiangsu, People's Republic of China

EC REP Little Doctor Europe Sp. z o.o. 57G Zawila Street Krakow 30-390 Poland

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