



- Thank you for purchasing OMRON Automatic Wrist Blood Pressure Monitor Model R-A1.
- Please read the instructions thoroughly before using this unit for its safe and correct usage.
- Please keep this Instruction Manual always at hand for your future reference.

## Table of Contents

---

### Before Using the Product

Safety Instruction .....	3
Product Features .....	4
Names and Functions of Parts .....	5
How to Insert the Batteries .....	6
How to Set the Date and Time .....	7

### How to Use

How to wrap the wrist cuff correctly .....	9
Correct Posture .....	10
How to Measure Blood Pressure .....	11
How to Use the Memory Function .....	13

### What You Need to Know About Blood Pressure

About Wrist Blood Pressure Monitor .....	14
A Few Words About Blood Pressure .....	16
Blood Pressure Q & A .....	17




### Troubleshooting

Care and Storage .....	19
When an Error Indicator Appears .....	20
When Problems Occur .....	21
Specifications .....	22
Blood Pressure Log .....	23

# Before Using the Product

## Safety Instruction

### **Caution**

<p>Self-diagnosis of measured results and treatment is dangerous. Please follow the instructions of your doctor.</p> <ul style="list-style-type: none"><li>• Self-diagnosis may worsen the condition.</li><li>• When the arterial sclerosis proceeds is due to diabetics, hyperlipemia, or hypertension, it may cause peripheral circulatory disturbance. For these cases, blood pressure may differ greatly between measurement at the wrist and the brachial.</li></ul>	
<ul style="list-style-type: none"><li>• Do not use this monitor on infant or person who cannot express one's intention. May result in accidents or disputes.</li><li>• Do not use this monitor for purposes other than measuring blood pressure. May result in accident or trouble.</li><li>• Do not use portable phones near this monitor. The monitor may operate erroneously.</li></ul>	
<p>Do not disassemble or modify the main unit or the wrist cuff of the blood pressure monitor. Will result in incorrect measurement.</p>	

### **General Advice**

- Do not apply shock to or drop the monitor.
- Do not stretch or bend the wrist cuff with force.
- Do not turn on the monitor without wearing the wrist cuff.

## Product Features

---

- Automatic memory function can store up to 21 measurement values.
- Fully automatic inflation and deflation.
- Large and clear digital LCD display.

### Points to note when measuring Blood Pressure.

- 1 Relax yourself by taking a deep breath.
- 2 Urinate and empty your bowels before taking measurement.
- 3 Measure your blood pressure in a correct posture.  
(Refer to Page 9.)
- 4 Take measurement at the same time of the day daily.
- 5 Measurement should be taken in a room of a moderate temperature.

### The blood pressure values measured at home may vary due to many factors e.g.

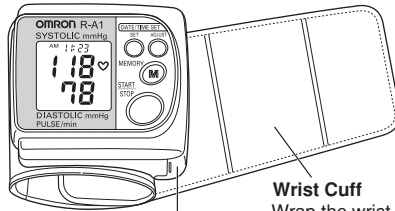
- Within 1 hour after taking a meal
- After drinking alcohol, coffee, or tea, smoking, shower, or exercise
- Measurement is carried out while talking or moving
- Feeling stress or anxious
- Measuring in the posture with your stomach being pressed
- Measurement is taken at different places or environments
- When measurement is taken in a moving vehicle



**Do not self-diagnose the measurement results. Please follow the instructions of your doctor.**

#### 4 Before Using the Unit

## Names and Functions of Parts



**Battery Cover**  
Insert the batteries.

**Wrist Cuff**  
Wrap the wrist cuff  
over your wrist snugly.

**M Mark**  
Displayed when the  
stored measurement  
values are called out.

**SET button**  
Press this button to confirm the date and  
time. Press this button so that the clock  
can be displayed.

**Date/Time  
display**

**Systolic Blood  
Pressure/  
Pulse Display**

**Diastolic Blood  
Pressure/Pulse  
Display**



**Battery replacement  
mark**

**ADJUST button**  
Press this button to adjust  
the date and time. Press  
this button so that the clock  
can be displayed.

**MEMORY button**  
Press this button to see the  
measured values stored in  
the monitor. Stores 21 sets  
of readings.

**START/STOP button**  
Press this button to  
measure the blood  
pressure. Press this button  
so that measurement can  
be cancelled or power can  
be turned off.

**Before Using the Unit 5**

## How to Insert the Batteries

---

1. Place the main unit with the battery cover facing upward.

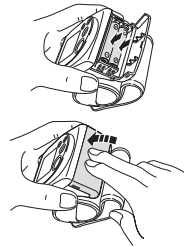
Hold both ends of the battery cover to open the cover towards the direction of the arrow shown here.



2. Insert two AAA alkaline batteries according to the mark on the figure.


The side having a projected metal is the negative (-) side.

Press down the battery cover with your fingertips as shown in the figure. The cover clicks when it closes.



### Battery life and replacement

- With the use of high performance new alkaline batteries (two AAA batteries), you can measure approximately 400 times.

If the  mark flashes or the display remains blank when you switch on the unit, please replace both batteries with new ones.

If the batteries have been replaced or removed, resetting of date and time is required.

#### General Advice

- Please remove the batteries if you are not using the monitor for a prolong period (three months or more), as the batteries may leak and cause damage to the unit.
- Do not use old and new batteries together, or mix different types of batteries. Use only AAA alkaline batteries.
- Please turn off the power of the unit before changing the batteries.

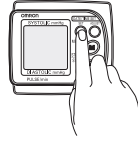
## 6 Before Using the Unit

## How to Set the Date and Time

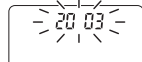
The Blood Pressure Monitor can automatically store up to 21 readings. As long as date and time is adjusted correctly, the date and time can be stored along with the readings.

- Always adjust the date and time before using the monitor for the first time or no usage for long period since battery removal.
- Date and time cannot be adjusted during measurement.
- Blood pressure can be measured without adjusting the date and time. However, the correct date and time of measurement is not stored.

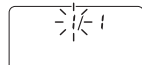
1. Press the SET button or the ADJUST button to display the clock.



2. Press and hold the SET button for more than 1 second, until the display of year flashes.

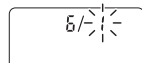


3. Press the ADJUST button to set the year.
  - Press the button once to increase by the year.
  - Press and hold the button to speed up the process.
  - The year can be set between 2001 and 2030.



4. Press SET button to lock the year, and proceed to setting the month.

5. Press the ADJUST button to set the month display. Press the button once to increase the month by one. Press and hold to speed up.



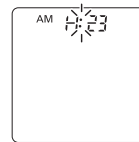
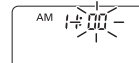
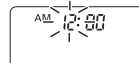
6. Press the SET button to lock the month. The Day flashes.

Before Using the Unit 7

## How to Set the Date and Time

---

7. Press the ADJUST button to set the day display.  
Press once to increase by the day. Press and hold to speed up.
8. Press the SET button to lock the day, and proceed to set the hour.
9. Press the ADJUST button to set the hour display.  
Press the button once to increase by every hour. Press and hold to speed up.
10. Press the SET button to lock the hour. The Minute flashes.
11. Press the ADJUST button to set the minute display.  
Press once to increase by the minute. Press and hold to speed up.
12. Press the SET button. Date and time setting is completed.



## 8 Before Using the Unit

# How to Use

## How to wrap the wrist cuff correctly

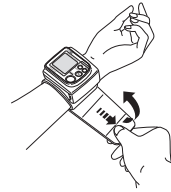
1. Turn the palm of your left hand upward and place the wrist cuff over your wrist.

Leave an allowance of 10–15 mm (equal to the width of an index finger) between the edge of the wrist cuff and the bottom of the palm as shown in the figure.



*Note: Please ensure that the wrist cuff completely covers your wrist.*

2. Pull the wrist cuff upward holding its edge **so that it can be wrapped snugly.**



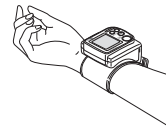
3. Lightly press the Sewn Hook Material with your finger so that it is fastened tightly, as reading cannot be taken if the wrist cuff loosens during measurement



*Note: The wrist cuff may not be able to fit snugly for those with slender wrist (wrist circumference of less than 145 mm). In this case, do not force to wrap the wrist cuff, as it will not affect the measurement.*

### Taking measurement on your right wrist

You can also measure your blood pressure on your right wrist. Wrap the wrist cuff as shown in the figure on the right.



How to Use 9

## Correct Posture

**Correct posture is important to achieve accurate measurement.**



1. Sit in proper position by stretching your dorsal muscle. Do not slouch.
2. Breathe in deeply for five to six times before measurement, and then return to normal breathing. Relax your shoulders and arms.
3. When measuring, lift the wrist cuff to the same level as your heart (level of nipple).

### Correct position of wrist

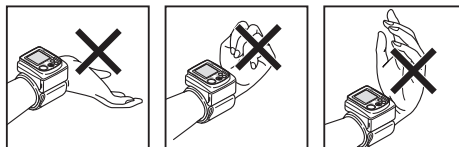
Your hand is naturally stretched without giving stress to your fingers.



## Don'ts during measurement.



Do not hold the wrist cuff with another hand. It may cause erroneous measurement results.



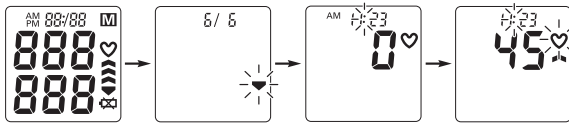
Even if the wrist cuff is placed correctly, the blood pressure values displayed may be higher on occasions such as gripping firmly.

## 10 How to Use

## How to Measure Blood Pressure

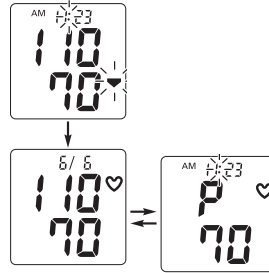
1. Press the START/STOP button.

After all the characters on the display illuminates, the unit starts inflating the cuff automatically.



2. Check the measured values.

- When measurement finishes, the deflation mark ▼ flashes and the wrist cuff deflates.  
The measurement results, “blood pressure value/date” and “pulse rate/ time”, are displayed alternately.
- If unable to measure, or the blood pressure values displayed are extremely high/low (Please refer Page 21.)
- To stop measurement half way, press the START/STOP button.  
After the monitor stops inflation and deflates, the power will be turned off.



3. To stop measurement, press the START/STOP button to turn off the power.  
Even if you forget to press the START/STOP button, the power will auto off after about 5 minutes.

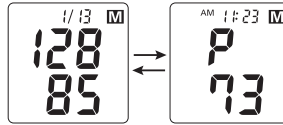
## How to use the Memory Function

OMRON R-A1 has a memory function to store up to 21 measurements.

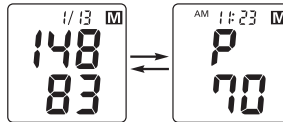
- When you press the MEMORY button, the monitor will display the previous measurement results.
- The measured values after memory is full will be stored automatically, but the earliest reading will be erased.
- The measured values are retained in memory even when the batteries are removed for replacement.

### 1. Press the MEMORY button.

When you first press the Memory button, the most recent measurement values are displayed. Blood pressure value and pulse are displayed alternately.



### 2. Memory Recall - Each time you press the MEMORY button, the previous measurement values are displayed.

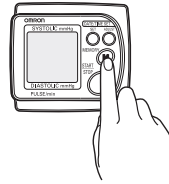


## How to use the Memory Function

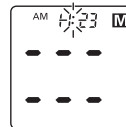
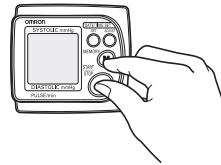
---

### How to erase the memory

1. Press the MEMORY button to display the stored contents.



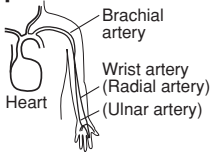
2. Press both MEMORY and START/STOP button simultaneously and hold for more than 2 seconds. All the stored contents will be erased.



# What You Need to Know About Blood Pressure

## About Wrist Blood Pressure Monitor

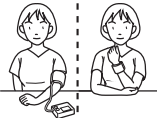
### Wrist blood pressure and brachial blood pressure



Blood pressure is usually measured at brachial artery. As the wrist arterial vessel is connected to the brachial vessel, wrist blood pressure values are close to brachial ones and reflect the change of brachial blood pressures. However in cases where there is a circulatory disorder such as arterial infarction, fairly large difference is observed between the brachial and the wrist blood pressure values.

After consulting your doctor, use the wrist blood pressure together with the brachial pressure for your health management.

### Difference in blood pressure values between wrist and brachial measurement



For healthy people, the difference between the blood pressure values measured at wrist and those at upper arm at rest is usually  $\pm 10$  mmHg for both systolic and diastolic blood pressures.

However after exercises or a shower, blood circulation changes greatly and the blood pressure values at wrist and upper arm may differ greatly.

### Wrist and brachial blood pressure values of those suffering from disease



Diabetes, hyperlipemia, or hypertension accelerates arterial sclerosis, which causes diseases such as cerebral apoplexy or myocardial infarction or induces arterial stenosis or peripheral circulatory disorder.

In these cases, the wrist and brachial blood pressure values may differ greatly. (Although you are healthy, deviation of measurement values can reach up to 20 mmHg due to improper measurement conditions. Do not rely on self-diagnosis of the measurement values, please consult you doctor.)

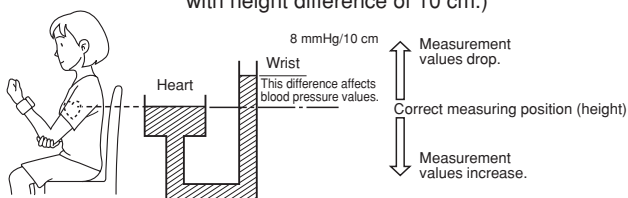
In addition, difference between wrist and brachial blood pressure values may be affected by physiological conditions at the time of measurement. However, the blood pressure values measured at wrist and upper arm usually fluctuate in the same manner.

Therefore, you can check the fluctuation tendency of blood pressure by measuring the wrist blood pressure.

## About Wrist Blood Pressure Monitor

### Measure in correct position

If the position of your wrist is not at the level of your heart, the blood pressure values change due to the weight of the blood itself. The blood pressure values drop when the wrist is positioned higher than the level of your heart. On the other hand, when the wrist is lowered, the blood pressure values increase. (A variation of approximately 8 mmHg is observed with height difference of 10 cm.)



### Everyday life and wrist blood pressure

Brachial and wrist blood pressures usually do not show great differences before and after eating or drinking.

If you take a hot bath, the dermal vessels contract temporarily and blood pressure elevates.

However, if you take a warm bath for relaxing, peripheral vessels expand and blood pressure lowers.

Wrist blood pressure tends to drop more than brachial blood pressure for the latter.

#### Luke warm water



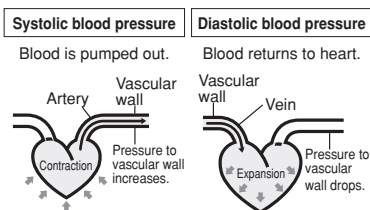
#### Hot water



## A Few Words About Blood Pressure

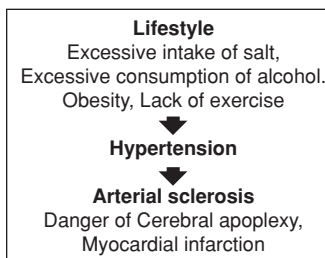
### What is blood pressure

Blood is pumped to the artery by the contraction and expansion of the heart. The pressure to pump out blood to artery is called “systolic blood pressure.” The pressure which results from the expansion of the heart when the blood, having circulated throughout the body, returns back to the heart is called “diastolic blood pressure”.



### Health and blood pressure

Blood pressure fluctuates with one’s lifestyle and age. Hypertension is a sign that can cause one to be more prone to diseases such as cerebral apoplexy or myocardial infarction. By understanding the state of your blood pressure, you can review your health and lifestyle.

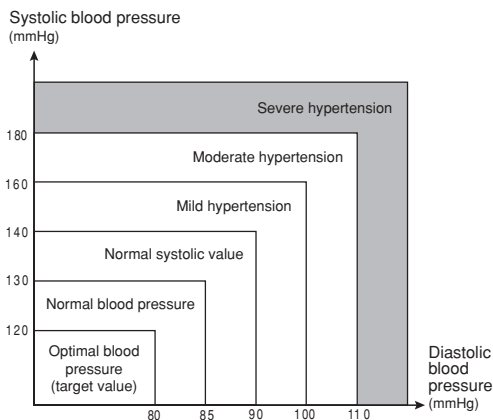


## A Few Words About Blood Pressure

### A guide to know the degree of hypertension

The World Health Organization (WHO) and the International Society of Hypertension (ISH) established the Blood Pressure Classification. Use this Classification as a guide to the state of your blood pressure. However, if you are concerned with your blood pressure, please follow the instructions of your doctor.

- There is no universally accepted definition of hypotension. Generally speaking, those with the systolic pressure below 100 mmHg are considered to be hypotension.



According to the blood pressure classification by the WHO/ISH\* (revised in 1999)

\* International Society of Hypertension

- This classification is based on the blood pressure values measured at upper arm by sitting on the chair in the hospital regardless of the age.

## Blood Pressure Q & A

---

### **Why does my blood pressure values fluctuate each time I measure?**

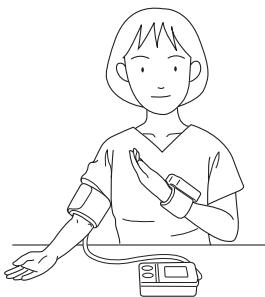
Blood pressure fluctuates all the time. It is continuously changing with every pulse according to the heart movement and influenced by various environmental and psychological state. Also, blood pressure may fluctuate depending on the measuring posture or how the wrist cuff is wrapped. Wrap the wrist cuff correctly, take a correct posture, and measure under the same conditions at any one time.

### **Why is blood pressure management important?**

A daily record of your highest and lowest blood pressure with associated mental, physical, and environmental conditions greatly assists your doctor in the diagnosis of your health. It is recommended that you measure your blood pressure daily at home and record it along with the weather conditions, events, concerns, or medicines (depressants, etc.), or any other information that may help in the diagnosis.

### **How can I know the difference between blood pressure values measured at the wrist and upper arm?**

Measure your blood pressure by wrapping a brachial blood pressure monitor on your right arm and the wrist blood pressure monitor on your left wrist simultaneously (refer to the figure). After several measurements, you should be able to know the difference. If the blood pressure values measured on your right and left arms differ greatly, it is necessary to know the tendency of your blood pressures to differ by measuring several times, alternating the arm with the blood pressure monitor.



#### **18 What You Need to Know About Blood Pressure**

# Troubleshooting

## Care and Storage

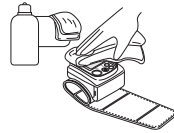
---

### How to clean the monitor

Please clean the monitor frequently.

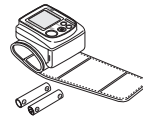
Wipe any stain on the main unit with a dry cloth. If the main unit is very dirty, moisten a soft cloth with water or mild detergent, squeeze dry before wiping the unit. Then use a dry cloth to wipe dry.

- Please ensure that no liquid gets into the main unit.
- Do not use benzine, thinner, or gasoline to clean the monitor.



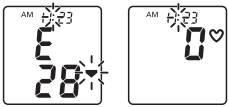
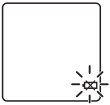

### Care and Storage

- Do not wash or wet the wrist cuff.
- Do not store the monitor in the following places.
  - i) wet places
  - ii) conditions of extreme heat and humidity, poor ventilation, direct sunlight, or dusty areas
  - iii) slanted surfaces or near places which may have sudden movements
  - iv) chemical storage places or where corrosive gas is generated
- Remove the batteries before storing the monitor if you are not using it for a long period (3 months or more).
- Store the monitor in the storage case.



OMRON cannot guarantee the quality of the product if you do not observe the above notes or the correct use of the product.

## When an Error Indicator Appears

Error Indicator	Cause	What to do
 <p>After several seconds</p>	<ul style="list-style-type: none"> <li>• Moving your wrist during measurement.</li> <li>• Movement of your arm or body or engaging in a conversation during measurement.</li> </ul>	<p>Keep still and measure your blood pressure again until the measurement is completed. (Refer to Page 10.)</p>
 <p>Battery replacement mark flashes</p>	<p>Batteries are worn out.</p>	<p>Replace both batteries with new ones.</p>
	<p>Abnormality in memory function.</p>	<p>Please contact your OMRON authorised dealer.</p>

If you experience recurring error after taking the above-mentioned measures, please contact your OMRON dealer.

## When Problems Occur

Problem	Possible cause	What to do
Nothing is displayed when you press the START/STOP button.	Batteries are worn out.	Replace the batteries with new ones.
	The directions of polarities of inserted batteries (+ and -) are wrong.	Insert the batteries correctly.
Measurement cannot be made/the blood pressure values displayed are abnormally high or low.	The wrist cuff is not held at the level of the heart.	Measure your blood pressure again in correct posture. (Refer to Page 9.)
	The wrist cuff is not wrapped snugly.	Wrap the wrist cuff correctly.
	Too much stress is applied on your shoulder.	Relax yourself while taking measurement.
	Talking or moving your hands during measurement.	Be still while taking measurement.
Blood pressure values are displayed before the monitor inflates to the required value.	Air is leaking from the wrist cuff.	Please contact your OMRON authorised dealer.
Blood pressure value fluctuates with each measurement/the blood pressure values displayed are abnormally high or low.	Blood pressure value tends to fluctuate depending on your mental state during measurement or time of measurement. Breathe deeply to relax yourself and take measurement again.	

If you experience recurring problem after taking the above-mentioned measures, please contact your OMRON dealer.

Troubleshooting 21

## Specifications

Name:	OMRON Automatic Wrist Blood Pressure Monitor
Model:	R-A1
Display:	Digital display
Measurement Method:	Oscillometric method
Measurement Range:	Pressure: 0 to 299 mmHg, Pulse rate: 40 to 180/min.
Accuracy:	Pressure: within $\pm 3$ mmHg, Pulse rate: within $\pm 5\%$ of reading
Inflation:	Automatic inflation with pump
Deflation:	Automatic rapid deflation
Pressure Detection:	Electrostatic capacity semi-conductor pressure sensor
Power supply:	Two AAA alkaline batteries (LR03)
Battery Life: using	Approximately 400 times of measurement when using new alkaline batteries
Operating Temperature and Humidity:	+10°C ~ +40°C 30 to 85% RH
Storage temperature and Humidity:	-20°C ~ +60°C 10 to 95% RH
Measurable circumference of wrist:	Approx. 135mm to 195mm
Weight of Main Unit:	Approx. 160g (including batteries)
External Dimensions:	Approx. 78.6mm x 47.0mm x 71.0mm
Electric Shock Protection:	Internal power supply appliance type B
Accessories:	Two AAA alkaline batteries (LR03) for trial use, storage case, Instruction Manual

\* Specifications are subject to change without prior notice.

## 22 Troubleshooting

