Example expressions to notify increased blood pressure

[Classification of medical checkup results and advice]

<table>
<tr><td colspan="3" rowspan="2">Medical checkup results</td><td colspan="2">Advice</td></tr>
<tr><td>Obese persons</td><td>Non-obese persons</td></tr>
<tr><td rowspan="4">Abnormal
↑

↓
Normal</td><td rowspan="2">Higher than the level of medical treatment recommendation</td><td>Systolic BP ≥ 160 mm Hg or Diastolic BP ≥ 100 mm Hg</td><td colspan="2">1) Seek prompt medical attention.</td></tr>
<tr><td>Systolic BP 140–159 mm Hg or Diastolic BP 90–99 mm Hg</td><td colspan="2">2) Try to improve your lifestyle. If the high BP persists, seek medical attention.</td></tr>
<tr><td>Higher than the level of health guidance</td><td>Systolic BP 130–139 mm Hg or Diastolic BP 85–89 mm Hg</td><td>3) Use specific health guidance services regularly and try to improve your lifestyle.</td><td>4) Try to improve your lifestyle.</td></tr>
<tr><td>Within normal range</td><td>Systolic BP < 130 mm Hg and Diastolic BP < 85 mm Hg</td><td colspan="2">5) Continue to get regular medical checkups.</td></tr>
</table>

[Example expressions to explain the results to the concerned persons]

Case 1 (Obese persons/non-obese persons)

Systolic BP ≥ 160 mm Hg or diastolic BP ≥ 100 mm Hg

This time, your blood pressure (BP) has increased to a very high level. Your risk of suffering from a stroke or heart disease is five times higher than that of persons with a desirable BP (systolic BP < 120 mm Hg and diastolic BP < 80 mm Hg).

You should visit your primary care doctor immediately and show him/her the result of this medical checkup.

Case 2 (Obese persons/non-obese persons)

Systolic BP 140–159 mm Hg or Diastolic BP 90–99 mm Hg

According to this blood pressure (BP) measurement, you are suspected of having hypertension. If your BP continues to remain high, your risk of suffering from a stroke or heart disease will be three times higher than that of persons with a desirable BP (systolic BP < 120 mm Hg and diastolic BP < 80 mm Hg).

To decrease your BP, you need to improve your lifestyle by making the following changes: losing weight (for obese persons or for persons who have gained weight recently), appropriate exercise, quitting smoking, limiting the consumption of alcoholic beverages, limiting salt intake, increasing the consumption of vegetables, and ensuring the consumption of appropriate amounts of fruit. You can improve your lifestyle in two ways: through self-improvement, where you try to improve your lifestyle by yourself, or by using a specific health guidance service. Practice one of them for one to three months, and then visit your primary care doctor for reexamination.

Please note that if you have diabetes, chronic kidney disease, or cardiovascular diseases (diseases of the heart or blood vessels), or have more than three other risk factors* along with high BP, these disease and factors put you at a higher risk of stroke or myocardial infarction when your BP remains high. Therefore, you should seek the advice of your primary care doctor immediately.

* "Other risk factors" include:

- ✓ Old age (≥ 65 years).
- ✓ Smoking.
- ✓ Hyperlipidemia (HDL < 40 mg/dL; LDL ≥ 140 mg/dL; TG ≥ 150 mg/dL).
- ✓ Obesity (BMI ≥ 25) (particularly abdominal obesity).
- ✓ Metabolic syndrome.
- ✓ Family history of early onset cardiovascular disease (< 50 years).

Case 3 (Obese persons)

Systolic BP 130–139 mm Hg or Diastolic BP 85–89 mm Hg

This blood pressure (BP) measurement is within normal limits, but is closer to the upper limit of normal. If your BP continues to remain slightly high, your risk of suffering from a stroke or heart disease will be 1.5–2 times higher than that of persons with a desirable BP (systolic BP < 120 mm Hg and diastolic BP < 80 mm Hg).

To decrease your BP, you need to improve your lifestyle by making the following changes: losing weight, quitting smoking, limiting the consumption of alcoholic beverages, limiting salt intake, increasing the consumption of vegetables, and ensuring the consumption of appropriate amounts of fruit.

If you find an explanatory leaflet enclosed with the medical checkup results, you are a subject to be advised by the specific health guidance service. It is strongly recommend that you use this service to improve your lifestyle.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 4 (Non-obese persons)

Systolic BP 130–139 mm Hg or Diastolic BP 85–89 mm Hg

This blood pressure (BP) measurement is within normal limits, but is closer to the upper limit of normal. If your BP continues to remain slightly high, your risk of suffering from a stroke or heart disease will be 1.5–2 times higher than that of persons with a desirable BP (systolic BP < 120 mm Hg and diastolic BP < 80 mm Hg).

To decrease your BP, you need to improve your lifestyle by making the following changes: losing weight (for persons who may have gained weight recently), quitting smoking, limiting the consumption of alcoholic beverages, limiting salt intake, increasing the consumption of vegetables, and ensuring the consumption of

appropriate amounts of fruit.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 5 (Obese persons/non-obese persons)

Systolic BP < 130 mm Hg and diastolic BP < 85 mm Hg

This blood pressure (BP) measurement is within the normal limits.

You should continue to undergo regular medical checkups to monitor your health condition.

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Example expressions to notify lipid abnormality

[Classification of medical checkup results and advice]

<table>
<tr><td colspan="3" rowspan="2">Medical checkup results</td><td colspan="2">Advice</td></tr>
<tr><td>Obese persons</td><td>Non-obese persons</td></tr>
<tr><td rowspan="4">Abnormal
↑

↓
Normal</td><td rowspan="2">Higher than the level of medical treatment recommendation</td><td>LDL ≥ 180 mg/dL or
TG ≥ 1,000 mg/dL</td><td colspan="2">1) Seek prompt medical attention.</td></tr>
<tr><td>LDL 140–179 mg/dL or
TG 300–999 mg/dL</td><td colspan="2">2) Try to improve your lifestyle. If your measurements do not improve, seek medical attention.</td></tr>
<tr><td>Higher than the level of health guidance</td><td>LDL 120–139 mg/dL or
TG 150–299 mg/dL or
HDL < 40 mg/dL</td><td>3) Use the specific health guidance service regularly and try to improve your lifestyle.</td><td>4) Try to improve your lifestyle.</td></tr>
<tr><td>Within normal range</td><td>LDL < 120 mg/dL and
TG < 150 mg/dL and
HDL ≥ 40 mg/dL</td><td colspan="2">5) Continue to get regular medical checkups.</td></tr>
</table>

[Example expressions to explain the results to the concerned persons]

Case 1 (Obese persons/non-obese persons)

LDL ≥ 180 mg/dL

The lipid assessment showed a very high level of bad cholesterol, or Low Density Lipoprotein (LDL). As compared to persons with LDL levels below 100 mg/dL, you have about 3–4 times the risk of suffering from a myocardial infarction.

You should visit your primary care doctor immediately and show him/her the results of this medical checkup.

TG ≥ 1,000 mg/dL

Your blood fat level is very high. If this persists, acute pancreatitis could occur.

You should contact with your primary care doctor and ask him/her to refer to a specialist immediately.

Case 2 (Obese persons/non-obese persons)

LDL 140–179 mg/dL

Lipid assessment showed a very high level of bad cholesterol, or Low Density Lipoprotein (LDL). As compared to persons with LDL levels below 100 mg/dL, you have about 1.5–2 times the risk of suffering from a myocardial infarction.

You should reduce your consumption of animal fats abundant in saturated fatty acids. In addition, consuming more vegetable oil and fish abundant in polyunsaturated fatty acids is recommended. The consumption of

foods rich in cholesterol, such as eggs, should also be reduced, and if you smoke, that should be stopped. You should visit your primary care doctor for reexamination in 3–6 months.

Please note that if you have diabetes, chronic kidney disease, or cardiovascular diseases (diseases of the heart or blood vessels) in addition to abnormal levels of cholesterol, these comorbidities may aggravate arteriosclerosis and accelerate the development of myocardial infarction. Therefore, you should visit a hospital for reexamination.

You should continue to undergo regular medical checkups to monitor your health condition.

TG 300–999 mg/dL

The lipid assessment showed a high level of the neutral fat (triglycerides: TG). As compared with persons with TG levels below 150 mg/dL, you have twice the risk of developing heart disease.

You need to reduce the consumption of high-sugar foods and alcoholic beverages. You also need to lose weight if you are obese. It is recommended that you undergo a complete checkup urgently. You should visit your primary care doctor for reexamination within at least 3–6 months.

You should continue to undergo regular medical checkups to confirm your health conditions.

Case 3

LDL 120–139 mg/dL

The lipid assessment showed the presence of a borderline level of bad cholesterol (i.e. your cholesterol level is between high and normal levels).

You need to curb any further increase in LDL by reducing the consumption of animal fats abundant in saturated fatty acids, and by increasing your intake of vegetable oil and fish abundant in polyunsaturated fatty acids. The consumption of foods rich in cholesterol, such as eggs, should also be controlled. Smoking should be stopped and body weight should be lost appropriately.

If you find an explanatory leaflet enclosed with the medical checkup results, you are the subjects to be advised by specific health guidance service. It is strongly recommend that you use this service to improve your lifestyle.

Please note that if you have diabetes or kidney disease in addition to the borderline level of bad cholesterol, these comorbidities may aggravate arteriosclerosis and increase the possibility of suffering from a myocardial infarction. Therefore, you should visit a hospital for reexamination.

You should continue to undergo regular medical checkups to monitor your health condition.

TG 150–299 mg/dL

The lipid assessment showed the presence of a high level of the neutral fat (triglycerides: TG).

First, you need to lose weight. You also need to reduce your consumption of high-sugar foods and alcoholic beverages.

If you find an explanatory leaflet enclosed with the medical checkup results, you are a subject to be advised

by a specific health guidance service. It is strongly recommend that you use this service to improve your lifestyle.
You should continue to undergo regular medical checkups to monitor your health condition.

HDL < 40 mg/dL

The lipid assessment showed a low level of good cholesterol.
First, you need to control your weight, and if you smoke, you should stop. In addition, you should exercise regularly to increase your activity level.
If you find an explanatory leaflet enclosed with the medical checkup results, you are the subjects to be advised by a specific health guidance service. It is strongly recommend that you use this service to improve your lifestyle.
You should continue to undergo regular medical checkups to monitor your health condition.

Case 4 (Non-obese persons)

LDL 120–139 mg/dL

The lipid assessment showed a borderline level of bad cholesterol (i.e. your cholesterol level is between the high and normal levels).
You should curb any further increase in LDL by reducing your consumption of animal fats abundant in saturated fatty acids, and by increasing your intake of vegetable oil and fish abundant in polyunsaturated fatty acids. The consumption of foods rich in cholesterol, such as eggs, should also be controlled. Smoking should be stopped.
Please note that if you have diabetes, chronic kidney disease, or cardiovascular diseases (diseases of the heart or blood vessels) in addition to having borderline cholesterol, these comorbidities may aggravate arteriosclerosis and increase the possibility of your suffering a myocardial infarction. Therefore, you should visit a hospital to undergo examinations to rule out the possible presence of these diseases.
You should continue to undergo regular medical checkups to monitor your health conditions.

TG 150–299 mg/dL

The lipid assessment showed a high level of the neutral fat (triglycerides: TG).
You should reduce the consumption of high-sugar foods and alcoholic beverages. You should also lose weight if you have recently gained some.
You should continue to undergo regular medical checkups to monitor your health condition.

HDL < 40 mg/dL

The lipid assessment showed a low level of good cholesterol.
You should stop smoking. In addition, you should exercise regularly to increase your activity level.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 5 (Obese persons/non-obese persons)

The lipid test results were normal.

You should continue to undergo regular medical checkups to monitor your health condition.

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1. Okamura T, Tanaka H, Miyamatsu N, Hayakawa T, Kadowaki T, Kita Y, Nakamura Y, Okayama A, Ueshima H, for the NIPPON DATA80 Research group: The relationship between serum total cholesterol and all-cause or cause-specific mortality in a 17.3-year study of a Japanese cohort. Atherosclerosis 190(1): 216-223, 2007.
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Example expressions to notify increased blood glucose

[Classification of medical checkup results and advice]

<table>
<tr><th colspan="3" rowspan="2">Medical checkup results</th><th rowspan="2">Fasting blood glucose (mg/dL)</th><th rowspan="2">HbA1c (NGSP) (%)</th><th colspan="4">Advice</th></tr>
<tr><th colspan="2">Obese persons</th><th colspan="2">Non-obese persons</th></tr>
<tr><th></th><th></th><th></th><th>Diabetes treatment (+)</th><th>Diabetes treatment (-)</th><th>Diabetes treatment (+)</th><th>Diabetes treatment (-)</th></tr>
<tr><td rowspan="4">Abnormal
↑

↓
Normal</td><td>Higher than the level of medical treatment recommendation</td><td>~126 or over</td><td>~6.5 or over</td><td>1) Control obesity and blood glucose. Monitor blood glucose regularly.</td><td>2) Seek prompt medical attention.</td><td>3) Monitor and control blood glucose.</td><td>2) Seek prompt medical attention.</td></tr>
<tr><td rowspan="2">Higher than the level of health guidance</td><td>110–125</td><td>6.0–6.4</td><td rowspan="3">4) Control of blood glucose is satisfactory, but obesity needs to be controlled.</td><td rowspan="2">5) Regularly use the specific health guidance service and try to improve your lifestyle.</td><td rowspan="3">6) Control of blood glucose is satisfactory, and the same should be maintained.</td><td>7) Try to exercise regularly and improve dietary habits. A complete medical checkup is strongly recommended.</td></tr>
<tr><td>100–109</td><td>5.6–5.9</td><td>8) Try to improve your lifestyle. Visit a hospital for a complete medical checkup if you have other risk factors.</td></tr>
<tr><td>Within normal range</td><td>~99 or less</td><td>~5.5 or less</td><td>9) Try to control obesity and visit a hospital for regular medical checkups.</td><td>10) Visit a hospital for regular medical checkups.</td></tr>
</table>

[Example expressions to explain the results to the concerned persons]

Case 1 (Obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL and HbA1c was ( ) %. To prevent complications related to diabetes, you should continue to optimize the control of your blood glucose level. Therefore, you should continue to receive treatment for diabetes.

If your HbA1c exceeds 7.0%, your blood glucose control is considered unsatisfactory. If this occurs, you should consult your primary care doctor or visit a hospital specializing in diabetes treatment. In this manner, you should continue to receive specialized treatment for diabetes.

Losing weight, even if it is just a little, is important for your condition.

Case 2 (Obese persons/non-obese persons)

*HbA1c (not measured); fasting blood glucose ≥ 126 mg/dL

In this medical checkup, your fasting blood glucose was ( ) mg/dL. You are suspected of having diabetes. Visit your primary care doctor or a hospital specializing in diabetes treatment immediately.

*Fasting blood glucose (not measured); HbA1c ≥ 6.5%

In this medical checkup, your HbA1c was ( ) %. You are suspected of having diabetes. Visit your doctor or a hospital specializing in diabetes treatment immediately.

*Fasting blood glucose ≥ 126 mg/dL and HbA1c ≥ 6.5%

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. These measurements indicate that you have diabetes. Visit your primary care doctor or a hospital specializing in diabetes treatment immediately to receive treatment for diabetes as soon as possible.

Case 3 (Non-obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. To prevent the complications of diabetes, you should continue to optimize the control of your blood glucose level. Therefore, you should continue to receive treatment for diabetes.

Please note if your HbA1c exceeds 7.0%, it indicates that your blood glucose control is unsatisfactory. In such a situation, you must consult your primary care doctor or visit a hospital specializing in diabetes treatment. It is important that you continue to receive treatment for diabetes.

Case 4 (Obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. These measurements indicate that your blood glucose control is satisfactory. You should still visit your primary care doctor and receive continuous treatment. To ensure that this satisfactory blood glucose control is maintained,

you should lose weight.

Case 5 (Obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. The possibility that you have diabetes cannot be ruled out. A 75-mg oral glucose tolerance test is a detailed examination used for screening for diabetes. You are advised to undergo this test. Losing weight is important to prevent diabetes. A leaflet explaining the specific health guidance service has been enclosed with your medical checkup results. This service provides you with an opportunity to learn how to prevent diabetes by practicing appropriate dietary/exercise therapy. The use of this service is strongly recommended.

Case 6 (Non-obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. These measurements indicate that your blood glucose control is satisfactory. You should still visit your primary care doctor to receive continuous treatment. You should also continue to maintain a healthy lifestyle by improving your dietary habits and by exercising regularly.

Case 7 (Obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( )%. The possibility that you have diabetes cannot be ruled out. It is recommended that you begin dietary/exercise therapy to prevent diabetes. If you have any questions about dietary/exercise therapy, please contact the health center for advice. A 75-mg oral glucose tolerance test is a detailed examination that will aid in creating your future treatment plan. You are advised to undergo this test.

Case 8 (Non-obese persons)

In this medical checkup, your fasting blood glucose was ( ) mg/dL, and your HbA1c was ( ) %. The possibility that you have diabetes cannot be ruled out. It is recommended that you begin dietary/exercise therapy to prevent diabetes. If you have any questions about dietary and exercise therapy, please contact the health center for advice. If you have other risks such as hypertension or hyperlipidemia, or if your relatives have diabetes, you are advised to undergo a 75-mg oral glucose tolerance test. This detailed examination will aid in creating your future treatment plan. In the regular medical checkup scheduled for the next year, your progress should be examined carefully.

Case 9 (Obese persons)

In this medical examination, your test results for indicators of diabetes were normal. However, if obesity is left uncontrolled, you may be at a higher risk of developing diabetes. Therefore, you should lose weight, even if it is only by a little.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 10 (Non-obese persons)

In this medical examination, your test results for indicators of diabetes were normal.

You should continue to undergo regular medical checkups to monitor your health condition.

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*Source: “Evidence-based Practice Guideline for the Treatment of Diabetes in Japan 2010 (in Japanese only),” and “Treatment Guide for Diabetes 2012-2013 (in Japanese)”.

It was ensured that the recommendations conformed to the recommended level of health guidance and medical treatment of the specific health guidance service.

Example expressions to advise people to stop smoking

* Please use a combination of the messages listed in the following two sections.

1. Messages to emphasize the importance of quitting smoking

Case 1 Persons with increased blood pressure

Smoking and hypertension are the two leading causes of death among the Japanese. People who smoke and who have hypertension have a four-fold greater risk of dying from a stroke or heart disease as compared with those who do not have hypertension and a smoking habit. Considering your medical checkup results, it is recommended that you should stop smoking.

Case 2 Persons with hyperlipidemia

Smoking decreases the level of good cholesterol (high-density lipoprotein, HDL) and increases the levels of neutral fat (triglycerides) and bad cholesterol (low-density lipoprotein, LDL) in the blood. A combination of smoking and hyperlipidemia aggravates arteriosclerosis and increases the likelihood of a cerebral or myocardial infarction. Considering your medical checkup results, it is recommended that you should stop smoking.

Case 3 Persons with hyperglycemia

Smoking increases blood glucose levels, and increases the likelihood of diabetes by about 1.4 times. This is the result of the increase in sympathetic tone caused by smoking, which results in an increase in blood glucose. Moreover, smoking impairs the effectiveness of insulin, a hormone secreted by the pancreas. Furthermore, a combination of smoking and diabetes aggravates arteriosclerosis and increases the risk of dying from a cerebral or myocardial infarction by about 1.5–3 times (as compared to the risk of those who do not smoke). In addition, renal function is more likely to be impaired. Considering your medical checkup results, it is recommended that you should stop smoking.

Case 4 Persons with the metabolic syndrome

Smoking decreases the level of good cholesterol (high-density lipoprotein, HDL) in the blood and increases the level of neutral fat (triglycerides) and glucose. These conditions accelerate the development of metabolic syndrome. A combination of smoking and metabolic syndrome aggravates arteriosclerosis and increases the likelihood of a cerebral or myocardial infarction by about 4–5 times (as compared to the risk of those without metabolic syndrome and a smoking habit). Considering your medical checkup results, it is recommended that you should stop smoking.

Case 5 Persons without the above abnormalities

In this medical checkup, your blood pressure, lipid levels, and blood glucose were all within the normal limits. However, if you continue to smoke, you may be at higher risk of developing certain cancers, including lung cancer, and other conditions such as cerebral or myocardial infarction, diabetes, and chronic obstructive pulmonary disease (COPD), and subsequently, you will not be able to maintain the present satisfactory conditions. Considering your medical checkup results, it is recommended that you should stop smoking.

2. Recommending effective ways to quit smoking

Case 1 Persons who intend to stop smoking immediately (within one month), or those who are motivated to stop smoking after hearing the above messages

You can stop smoking by yourself but visiting a smoking cessation clinic or using smoking cessation aids will help you stop smoking relatively easily, and you will not have to worry about nicotine withdrawal symptoms. These antismoking strategies are 3–4 times more successful than the unaided strategy. If your antismoking therapy is covered by health insurance, you can receive the therapy at a hospital, at a monthly cost as low as one-third or half of the money you may spend on cigarettes (if you smoke 20 cigarettes a day).

Case 2 Persons who do not intend to stop smoking

While you currently do not plan to stop smoking, you may be motivated to do so in the future. When you do, you should remember the following advice.

You can stop smoking by yourself, but visiting a smoking cessation clinic or using smoking cessation aids will help you stop smoking relatively easily. These antismoking strategies are 3–4 times more successful than the unaided strategy. If your antismoking therapy is covered by health insurance, you can receive the therapy at a hospital, at a monthly cost as low as one-third or half of the money you may spend on cigarettes (if you smoke 20 cigarettes a day).

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Example expressions to notify findings related to urine protein

*Use these expressions for people without serum creatinine measurements

[Classification of medical checkup results and advice]

Medical checkup results		Advice
Abnormal ↑ ↓ Normal	Urine protein: positive (1+/2+/3+)	1) Seek medical attention promptly.
	Urine protein: slightly positive (±)	2) Visit a hospital for reexamination of the urine.
	Urine protein: negative (-)	3) Receive regular medical checkups.

What does "chronic kidney disease (CKD)" mean?

CKD is a pathological condition in which a positive result from the urine protein test or deterioration in renal function [glomerular filtration rate (GFR) < 60 ml/min/1.73 m^2] continues for more than 3 months.

[Example expressions to explain the results to the concerned persons]

Case 1 Urine protein (≥ 1+): positive test

According to the medical checkup results, you are strongly suspected of having advanced chronic kidney disease (CKD). Please visit a hospital promptly.

As compared to persons without CKD, those with CKD have a 10-fold greater risk of progressing to terminal renal failure, which requires dialysis therapy. In addition, their risk of stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases is more than twice that of persons without CKD. These risks, however, can be reduced by appropriate treatment; therefore, early initiation of treatment is recommended.

Case 2 Urine protein (±): slightly positive test

According to the medical checkup results, the possibility that you may have chronic kidney disease (CKD) cannot be ruled out. You should have your urine reexamined. If the reexamination reveals a "positive (+) test for protein," you need to receive treatment immediately. As a precaution, please go to a hospital for reexamination of the urine.

As compared to persons without CKD, those with CKD have a 10-fold greater risk of progressing to terminal renal failure,which requires dialysis therapy. In addition, their risk of stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases is more than twice that of persons without CKD. These risks can be reduced by appropriate treatment; therefore, getting early

treatment is of great importance.

Case 3 Urine protein (-): negative test

According to the medical checkup results, your renal function seems to be normal.

You should continue to undergo regular medical checkups to monitor your health condition.

If you meet any of the conditions mentioned below (*), you may be predisposed to developing CKD. As compared to persons without CKD, those with CKD have a 10-fold greater risk of progressing to terminal renal failure, which requires dialysis therapy. In addition, their risk of stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases is more than twice that of persons without CKD

To reduce your risk of developing CKD, you should improve your dietary habits and manage your obesity, if applicable. Persons with hypertension should reduce salt intake. Smoking cessation is also important.

(*) Risk factors for CKD:

Obesity, metabolic syndrome, hypertension, diabetes, hyperlipidemia, hyperuricemia (under treatment or requiring treatment), family history of CKD, abnormal findings in past urinalysis, and old age ($\geq$ 65 years).

Example expressions to notify the findings related to urine protein and serum creatinine

*Use these expressions for people with serum creatinine measurements

[Classification of medical checkup results and advice]

<table>
<tr><th colspan="2">Medical checkup results
(Unit for eGFR: ml/min/1.73 m^2)</th><th>Urine protein (-)</th><th>Urine protein (±)</th><th>Urine protein
≥ 1+</th></tr>
<tr><td rowspan="3">Abnormal
↑
↓
Normal</td><td>eGFR < 50</td><td colspan="3">1) Seek prompt medical attention.</td></tr>
<tr><td>eGFR 50–59</td><td>3) Improve your lifestyle.</td><td rowspan="2">2) Visit a hospital for reexamination of the urine.</td><td rowspan="2"></td></tr>
<tr><td>eGFR ≥ 60</td><td>4) Undergo regular medical checkups.</td></tr>
</table>

What does “chronic kidney disease (CKD)” mean?

CKD is a pathological condition in which a positive result on the urine protein test or deterioration in renal function [glomerular filtration rate (GFR) < 60 ml/min/1.73 m^2] continues for more than 3 months.

How is renal function [glomerular filtration rate (GFR)] assessed?

The GFR estimation (eGFR) is based on serum creatinine, age, and sex.

Normal eGFR is about 100 ml/min/1.73 m^2.

[Example expressions to explain the results to the concerned persons]

Case 1 [Urine protein (+) or eGFR < 50]

According to the medical checkup results, you are strongly suspected of having advanced chronic kidney disease (CKD). Please visit a hospital promptly.

As compared to persons without CKD, those with CKD have a 10-fold greater risk of progressing to terminal renal failure, which requires dialysis therapy. In addition, their risk of stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases is more than twice that of persons without CKD. These risks, however, can be reduced by appropriate treatment; therefore, early initiation of treatment is recommended.

Case 2 [eGFR ≤ 50 and urine protein (±)]

According to the medical checkup results, the possibility that you may have chronic kidney disease (CKD)

cannot be ruled out. You should have your urine reexamined. If the reexamination reveals a "positive (+) test for protein," you need to receive immediate treatment. As a precaution, please visit a hospital for a urine reexamination.

As compared to persons without CKD, those with CKD have 10-fold greater risk of progressing to terminal renal failure, which requires dialysis therapy. In addition, their risk of stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases is more than twice that of persons without CKD. These risks, however, can be reduced by appropriate treatment; therefore, receiving early treatment is of great importance.

Case 3 [eGFR 50–59 and urine protein (-)]

According to the medical checkup results, you are strongly suspected of having chronic kidney disease (CKD). As compared to persons without CKD, those with CKD are more likely to suffer from terminal renal failure and require dialysis therapy. In addition, they are at a higher risk of developing stroke/cardiovascular diseases, including angina pectoris and myocardial infarction, and of dying from these diseases.

The results of your urinalysis indicate no urgent hazardous condition, but further aggravation of CKD must be prevented. Therefore, you should make an effort to improve your dietary habits and manage your obesity, if applicable. If you suffer from hypertension, make an effort to limit your salt intake. Smoking cessation is also important.

To confirm if your lifestyle improvements are leading to desirable results, you should undergo regular medical checkups.

Note: If you are younger than 40 years, these data suggest that your renal function is inferior to the renal function of most people of the same age. Therefore, you should seek appropriate medical attention. In this case, you are likely to develop chronic kidney disease .

Case 4 [eGFR ≥ 60 and urine protein (-)]

The medical checkup results indicate that you are not very likely to have chronic kidney disease (CKD).

However, you should continue to undergo regular medical checkups to monitor your health condition.

However, if you meet any of the conditions shown below (*), you may be predisposed to developing CKD. To prevent this, you should improve your dietary habits and manage your obesity, if applicable. Persons with hypertension need to reduce their salt intake. Smoking cessation is also important.

(*) Risk factors for CKD:

Obesity, metabolic syndrome, hypertension, diabetes, hyperlipidemia, hyperuricemia (under treatment or requiring treatment), family history of CKD, abnormal findings in a past urinalysis, and old age (≥ 65 years).

[Reference] Risk levels corresponding to the numerical data as compared to the persons without CKD

(Unit for eGFR: ml/min/1.73 m^2)

Risk of requiring dialysis therapy due to terminal renal failure	Urine protein		
	(-)–(±)	(+)	(2+)–(3+)
eGFR < 50	50–1,000 times	300 times	2,000 times
eGFR 50–59		50 times	150 times
eGFR ≥ 60		10 times	20 times

Risks for developing cardiovascular diseases and of dying from them	Urine protein		
	(-)–(±)	(+)	(2+)–(3+)
eGFR < 50	3–8 times	3 times	8 times
eGFR 50–59		3 times	4 times
eGFR ≥ 60		2 times	3 times

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Example expressions to notify the findings related to uric acid

*Use these expressions for people with uric acid measurements

Note: These example expressions have been prepared on the assumption that the persons do not complain of any common symptoms such as lower limb joint pain in gouty arthritis.
If the persons complain of any pain, advise them to visit a hospital for appropriate treatment.

[Classification of medical checkup results and advice]

Medical checkup results (Unit: mg/dL)		Advice
Abnormal ↑	Serum uric acid ≥ 8.0	1) First, try to improve your lifestyle. If your serum uric acid does not improve with these lifestyle changes, you should seek medical attention.
	Serum uric acid 7.1–7.9	2) You should improve your lifestyle.
Normal	Serum uric acid 1.5–7.0	3) You should continue to undergo regular medical checkups.
↓ Abnormal	Serum uric acid < 1.5	4) You should seek medical attention.

[Example expressions to explain the results to the concerned persons]

Case 1 (Serum uric acid ≥ 8.0 mg/dL)

The results of this medical checkup indicate that you suffer from hyperuricemia. If you leave it untreated, you may develop gouty arthritis (also called "gout") and experience strong lower limb joint pain. In addition, a high level of serum uric acid increases the risk of developing renal disorder, urinary lithiasis, and metabolic syndrome.

First, you should improve your lifestyle and resolve your obesity. For example, you can improve your dietary habits by decreasing your intake of sugar. In addition, you need to exercise regularly to increase your activity level. Sufficient intake of water is also important. Because alcoholic beverages increase serum uric acid level, irrespective of whether they contain purines, you should limit your consumption of any kinds of alcoholic beverages.

You should make an effort to improve your lifestyle. Then, you should continue to undergo regular medical checkups to monitor your health condition. However, it may be that even after implementing lifestyle improvements, your serum uric acid level may exceed 9.0 mg/dl. In such a situation, you are advised to receive drug therapy. You should visit a hospital and show the results of this medical checkup to your physician.

Case 2 (Uric acid 7.1–7.9 mg/dL)

This medical checkup result indicates that you suffer hyperuricemia. Your test results indicate that you are not at an immediate risk of developing gouty arthritis (also called "gout"). However, in the future, you may develop this condition, which is often accompanied by strong lower limb joint pain. In addition, high levels of serum uric acid increase the risk of developing renal disorder, urinary lithiasis, and metabolic syndrome.

First, you should improve your lifestyle and resolve your obesity. For example, you can improve your dietary habits by decreasing your intake of sugar. You should also exercise regularly to increase your activity level. Sufficient intake of water is also important. Because alcoholic beverages increase serum uric acid level, irrespective of whether they contain purines, you should limit your consumption of any kinds of alcoholic beverages.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 3 (Uric acid 1.5–7.0 mg/dL)

The results of this medical checkup indicate that your serum uric acid is within the normal limits.

You should continue to undergo regular medical checkups to monitor your health condition.

Case 4 (Uric acid < 1.5 mg/dL)

This medical checkup result indicates that your serum uric acid is extremely low.

If you are receiving drug treatment for some disease, the dose may need to be adjusted. You should see your primary care doctor and show the results of this medical checkup.

If you are not currently receiving any drug treatment, the uric acid excretion from your kidney may be excessive. If left untreated, this may result in acute renal failure or urinary lithiasis. You should visit a hospital and show the results of this medical checkup to your doctor to undergo a complete medical checkup.

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