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(54) **MONITORING PARAMETER THRESHOLD VALUE SETTING METHOD AND MONITORING SYSTEM**

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(52) **U.S. Cl.**

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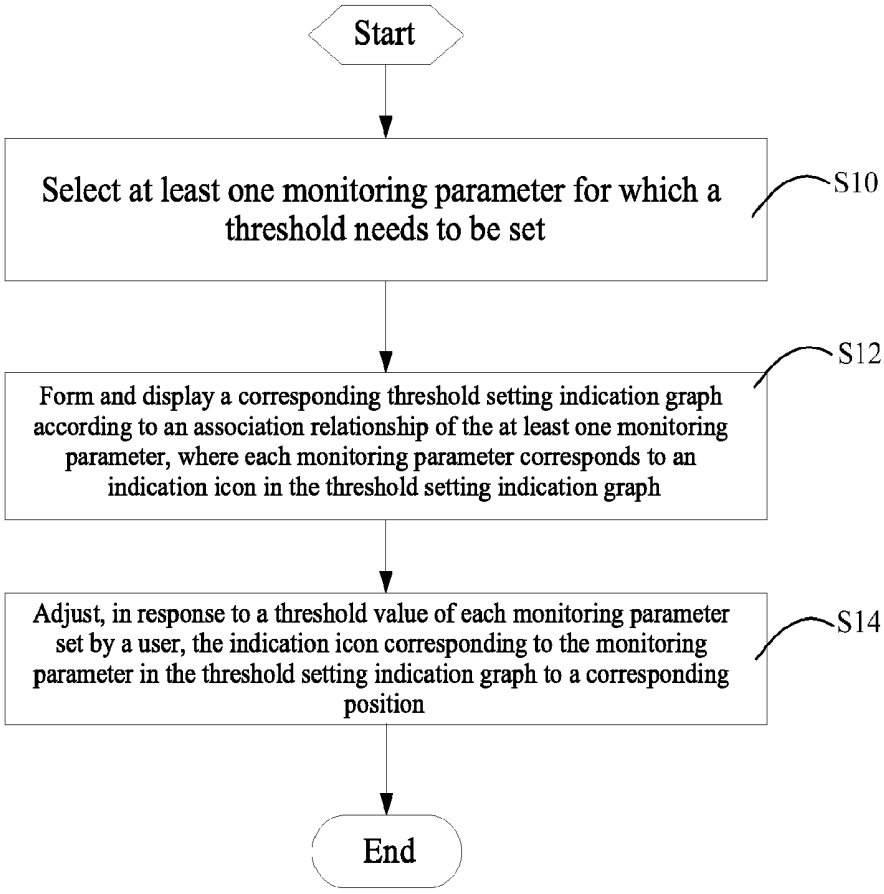
(57) **ABSTRACT**

The embodiment of the present disclosure discloses a monitoring parameter threshold value setting method, comprising the following steps: selecting at least one threshold value indicator of the monitoring parameter that needs a threshold value setting; forming and displaying a corresponding threshold value setting graphic according to the said threshold value indicator, wherein, in the said threshold value setting graphic, said threshold value indicator corresponds to an indication icon; responding to the threshold value setting of the threshold value indicator by a user, and adjusting the indication icon corresponding to the threshold value indicator to the corresponding position of the said indicating graphic. The embodiment of the present application also discloses a monitoring system provided with the said monitoring parameter threshold value setting method, which can provide a graphical indication when a user sets a threshold value of the monitoring parameter, thereby improving the convenience and accuracy of the threshold value setting.



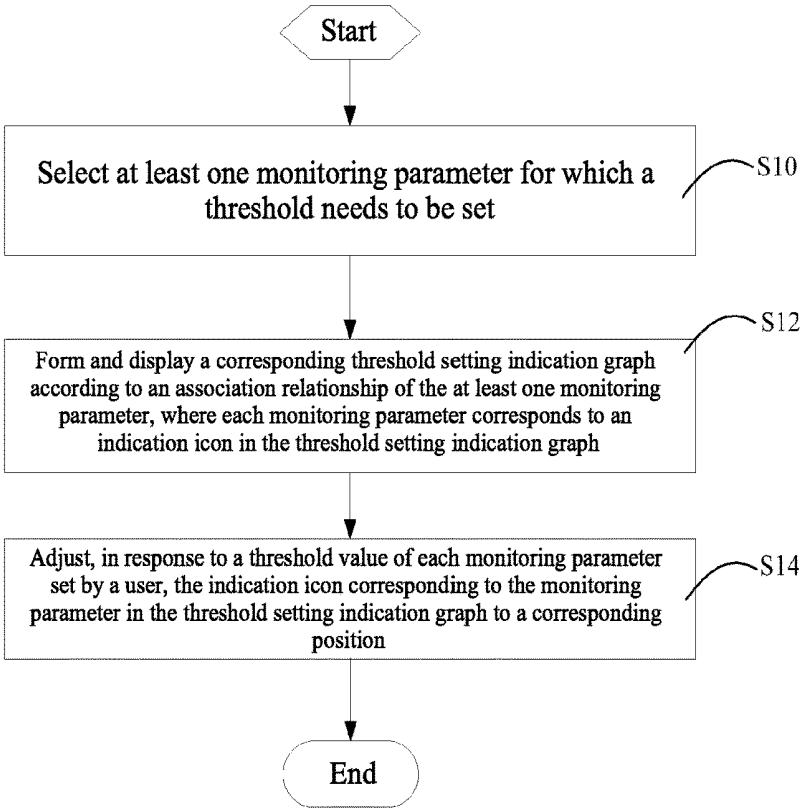

Start
Select at least one monitoring parameter for which a threshold needs to be set
S10
Form and display a corresponding threshold setting indication graph according to an association relationship of the at least one monitoring parameter, where each monitoring parameter corresponds to an indication icon in the threshold setting indication graph
S12
Adjust, in response to a threshold value of each monitoring parameter set by a user, the indication icon corresponding to the monitoring parameter in the threshold setting indication graph to a corresponding position
S14
End

Fig. 1

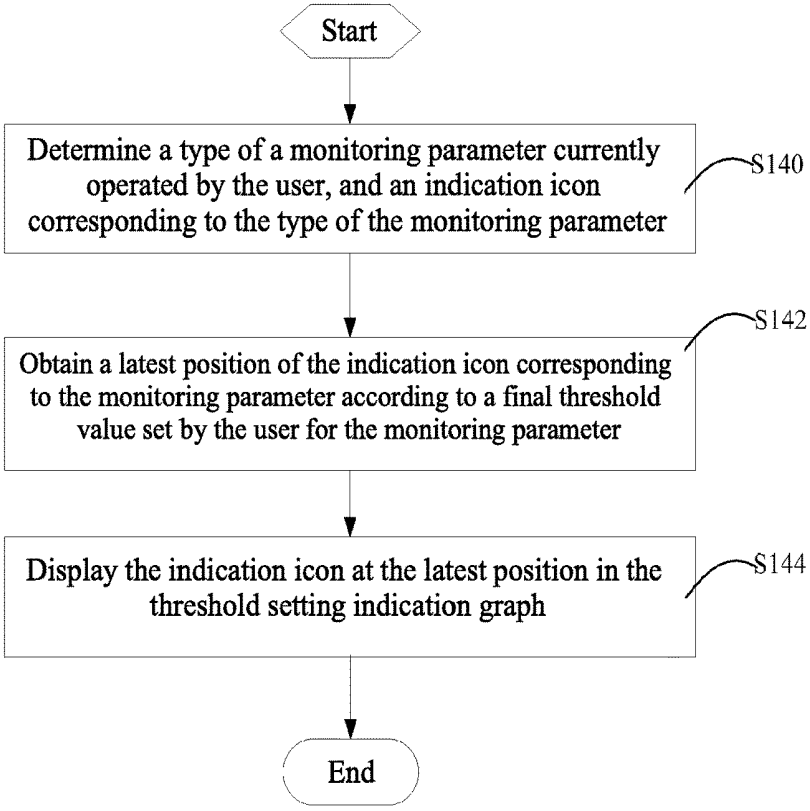

Start
Determine a type of a monitoring parameter currently operated by the user, and an indication icon corresponding to the type of the monitoring parameter
S140
Obtain a latest position of the indication icon corresponding to the monitoring parameter according to a final threshold value set by the user for the monitoring parameter
S142
Display the indication icon at the latest position in the threshold setting indication graph
S144
End

Fig. 2

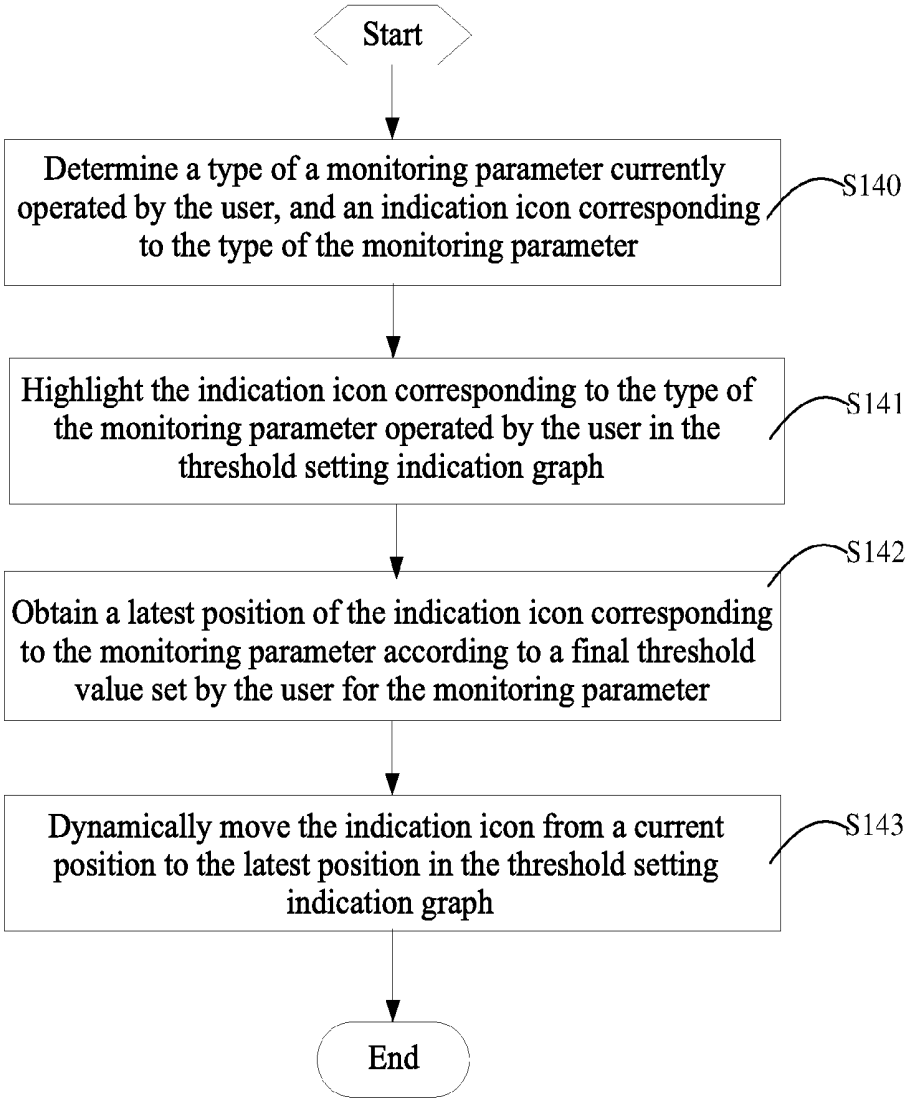

Start
Determine a type of a monitoring parameter currently operated by the user, and an indication icon corresponding to the type of the monitoring parameter
S140
Highlight the indication icon corresponding to the type of the monitoring parameter operated by the user in the threshold setting indication graph
S141
Obtain a latest position of the indication icon corresponding to the monitoring parameter according to a final threshold value set by the user for the monitoring parameter
S142
Dynamically move the indication icon from a current position to the latest position in the threshold setting indication graph
S143
End

Fig. 3

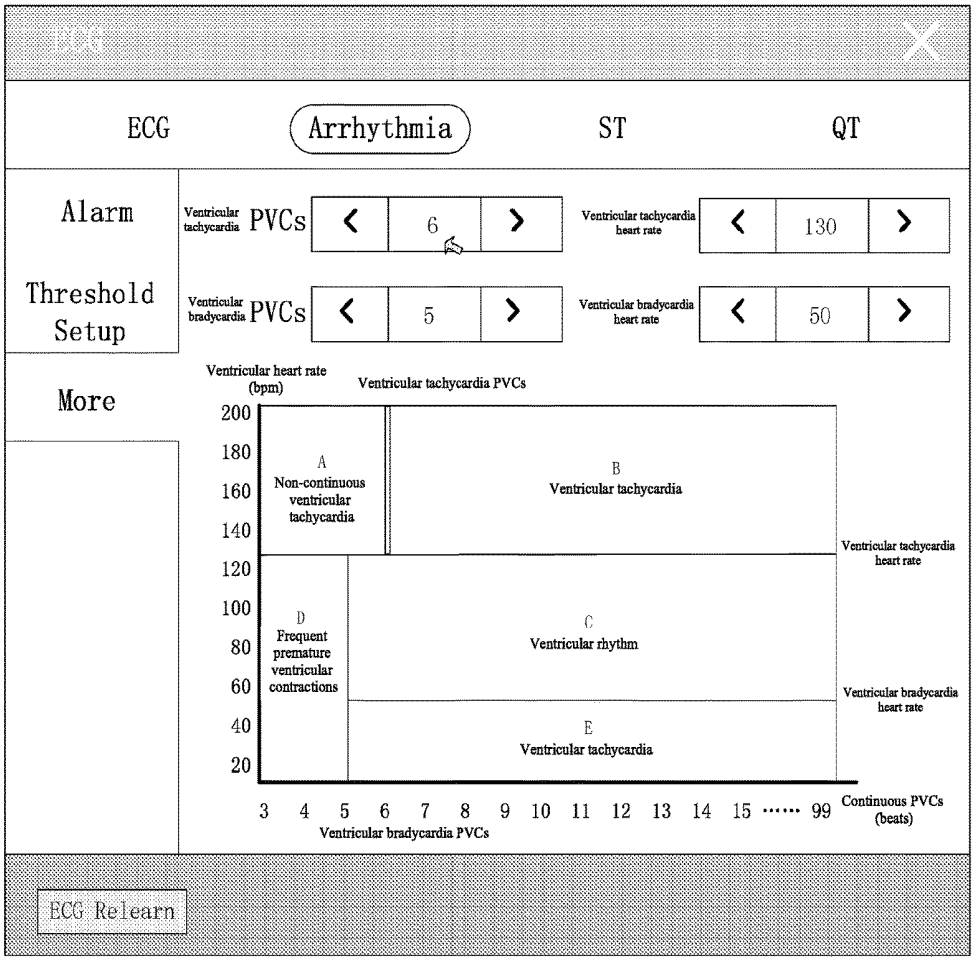

ECG
Arrhythmia
ST
QT
Alarm
Threshold Setup
More
Ventricular tachycardia PVCs
6
Ventricular tachycardia heart rate
130
Ventricular bradycardia PVCs
5
Ventricular bradycardia heart rate
50
Ventricular heart rate (bpm)
Ventricular tachycardia PVCs
200
180
160
140
120
100
80
60
40
20
A
Non-continuous ventricular tachycardia
B
Ventricular tachycardia
C
Ventricular rhythm
D
Frequent premature ventricular contractions
E
Ventricular tachycardia
Ventricular tachycardia heart rate
Ventricular bradycardia heart rate
3 4 5 6 7 8 9 10 11 12 13 14 15 ····· 99
Continuous PVCs (beats)
Ventricular bradycardia PVCs
ECG Relearn

Fig. 4

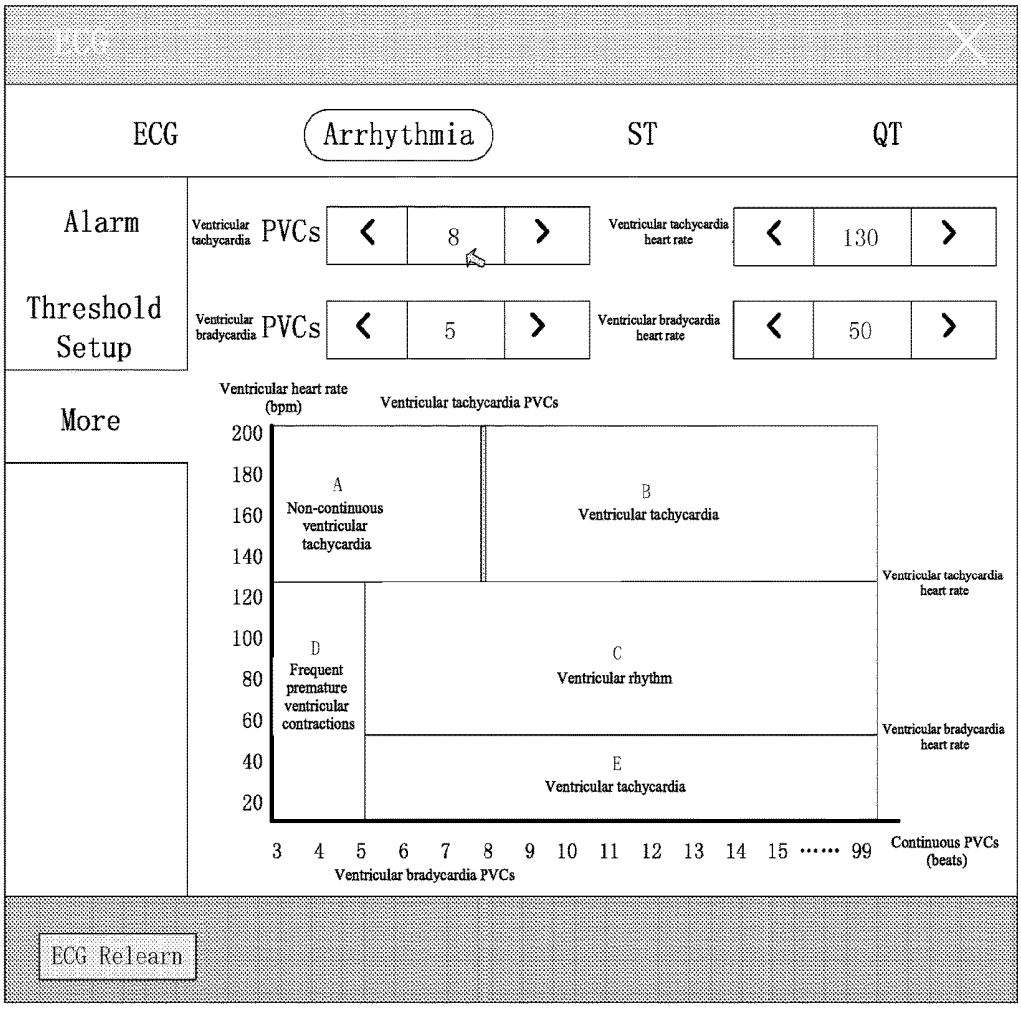

ECG
Arrhythmia
ST
QT
Alarm
Threshold Setup
More
Ventricular tachycardia PVCs
8
Ventricular tachycardia heart rate
130
Ventricular bradycardia PVCs
5
Ventricular bradycardia heart rate
50
Ventricular heart rate (bpm)
Ventricular tachycardia PVCs
200
180
160
140
120
100
80
60
40
20
A
Non-continuous ventricular tachycardia
B
Ventricular tachycardia
C
Ventricular rhythm
D
Frequent premature ventricular contractions
E
Ventricular tachycardia
Ventricular tachycardia heart rate
Ventricular bradycardia heart rate
3 4 5 6 7 8 9 10 11 12 13 14 15 99
Continuous PVCs (beats)
Ventricular bradycardia PVCs
ECG Relearn

Fig. 5

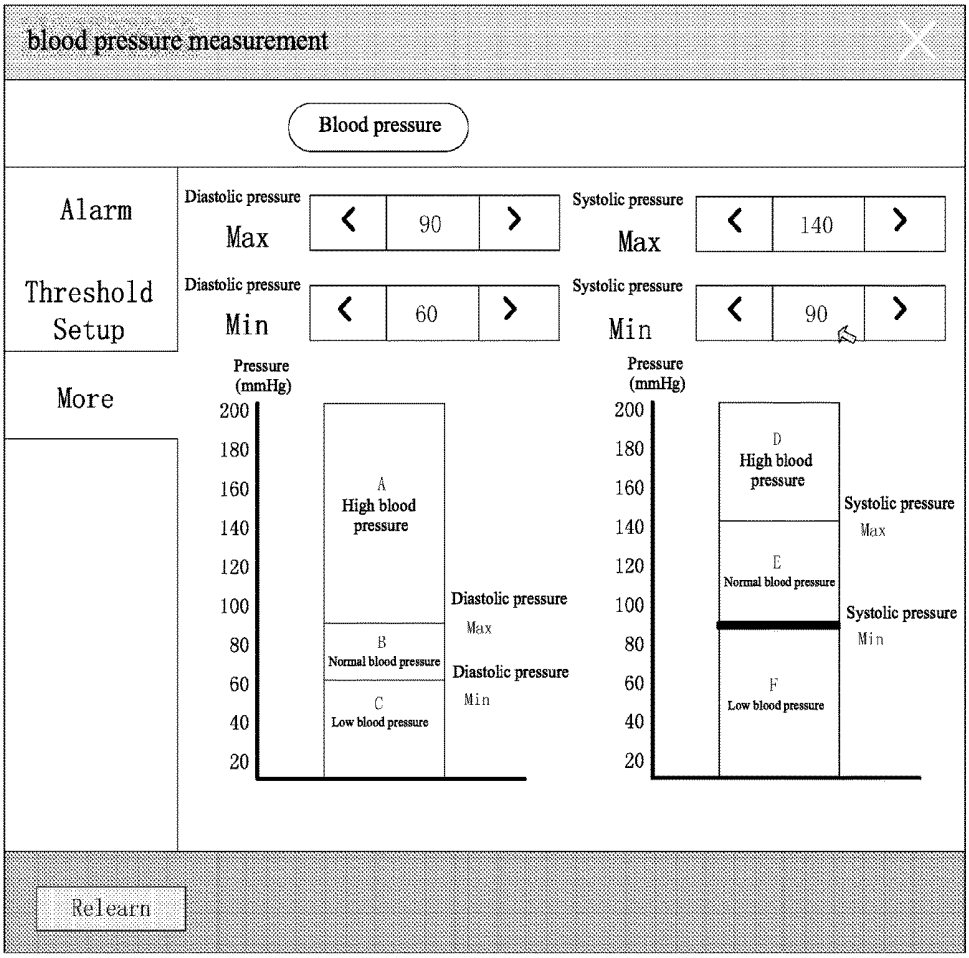

blood pressure measurement
Blood pressure
Alarm
Threshold Setup
More
Relearn
Diastolic pressure Max
90
Diastolic pressure Min
60
Systolic pressure Max
140
Systolic pressure Min
90
Pressure (mmHg)
200
180
160
140
120
100
80
60
40
20
A High blood pressure
B Normal blood pressure
C Low blood pressure
Diastolic pressure Max
Diastolic pressure Min
D High blood pressure
E Normal blood pressure
F Low blood pressure
Systolic pressure Max
Systolic pressure Min

Fig. 6

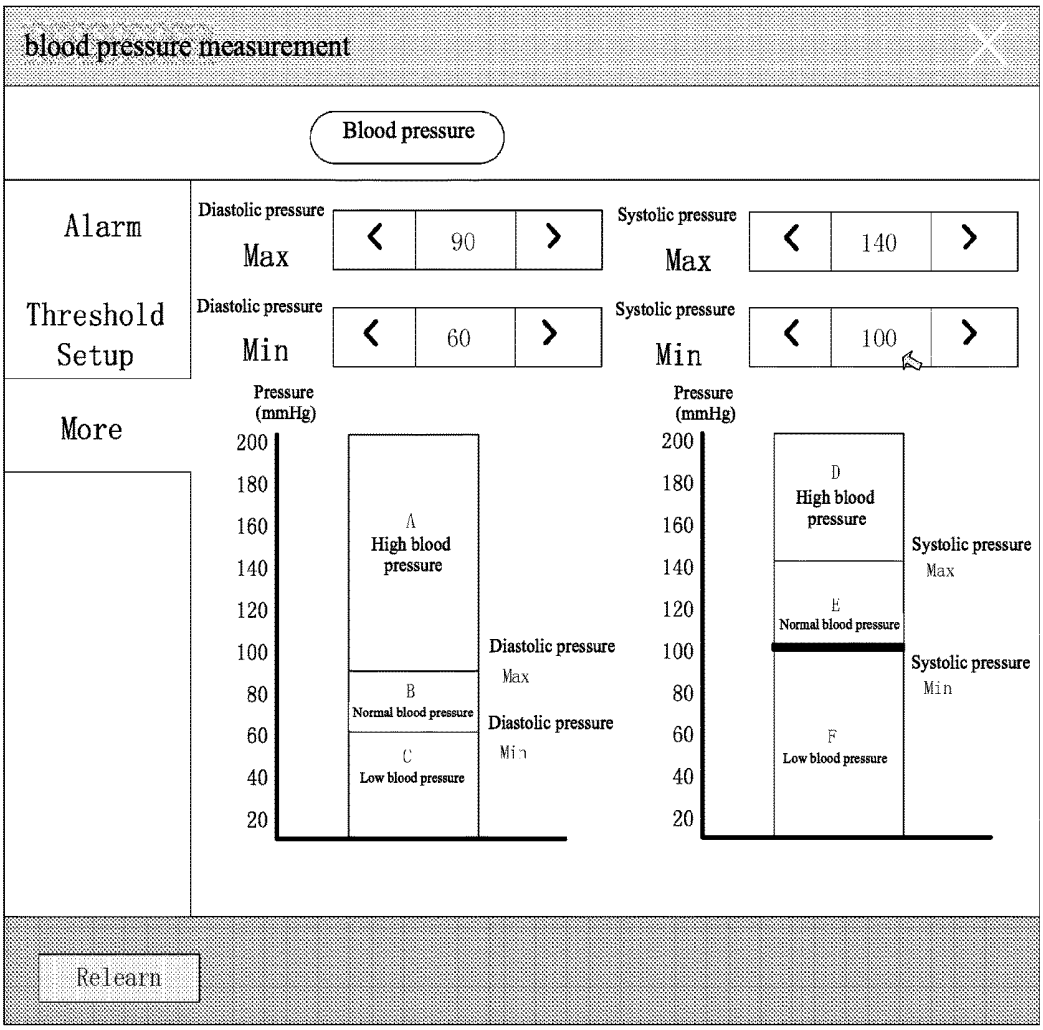

blood pressure measurement
Blood pressure
Alarm
Threshold Setup
More
Diastolic pressure Max
90
Systolic pressure Max
140
Diastolic pressure Min
60
Systolic pressure Min
100
Pressure (mmHg)
200
180
160
140
120
100
80
60
40
20
A High blood pressure
B Normal blood pressure
C Low blood pressure
Diastolic pressure Max
Diastolic pressure Min
D High blood pressure
E Normal blood pressure
F Low blood pressure
Systolic pressure Max
Systolic pressure Min
Relearn

Fig. 7

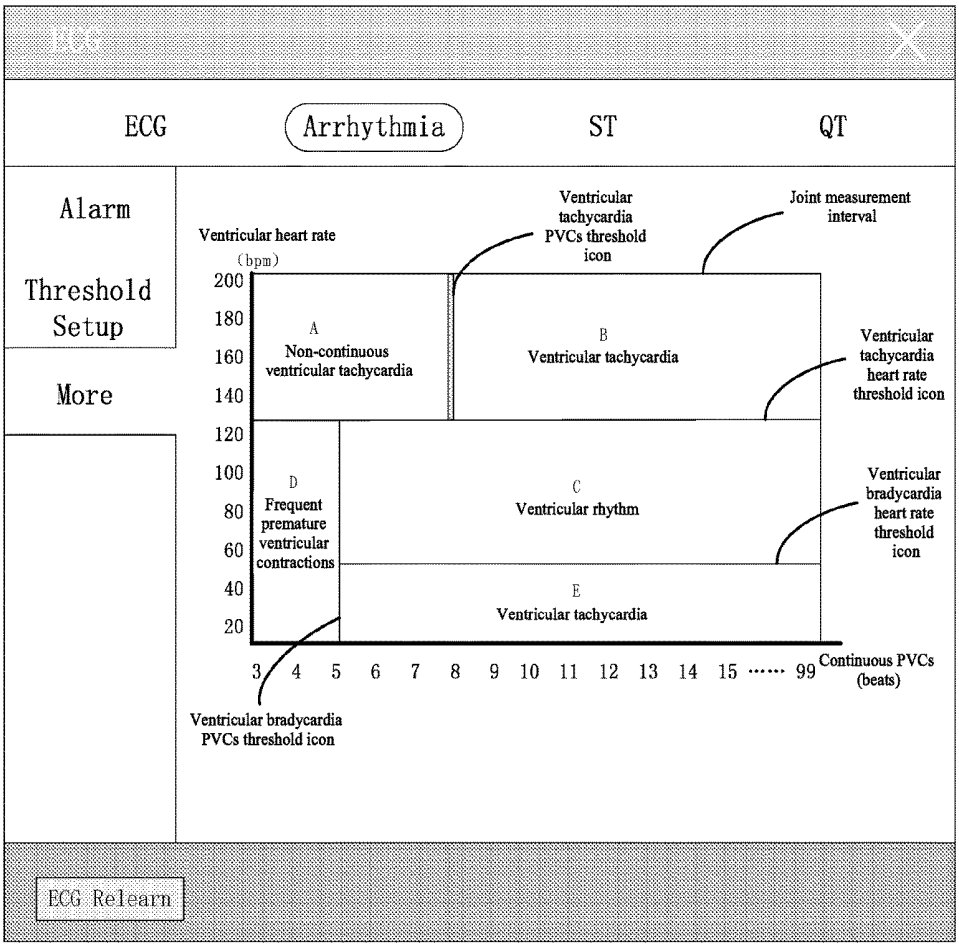

ECG
Arrhythmia
ST
QT
Alarm
Threshold Setup
More
ECG Relearn
Ventricular heart rate
(bpm)
200
180
160
140
120
100
80
60
40
20
A
Non-continuous ventricular tachycardia
B
Ventricular tachycardia
C
Ventricular rhythm
D
Frequent premature ventricular contractions
E
Ventricular tachycardia
Ventricular tachycardia PVCs threshold icon
Joint measurement interval
Ventricular tachycardia heart rate threshold icon
Ventricular bradycardia heart rate threshold icon
3 4 5 6 7 8 9 10 11 12 13 14 15 ····· 99
Continuous PVCs (beats)
Ventricular bradycardia PVCs threshold icon

Fig. 8

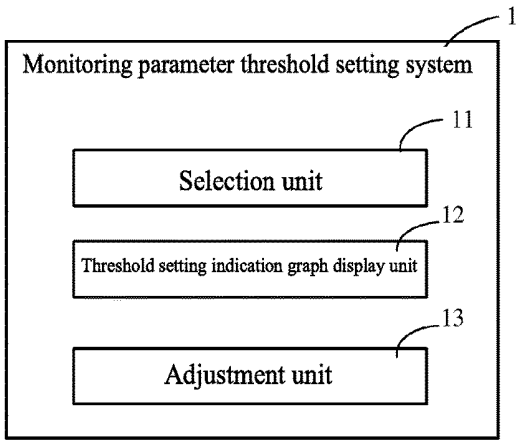

1
Monitoring parameter threshold setting system
11
Selection unit
12
Threshold setting indication graph display unit
13
Adjustment unit

Fig. 9

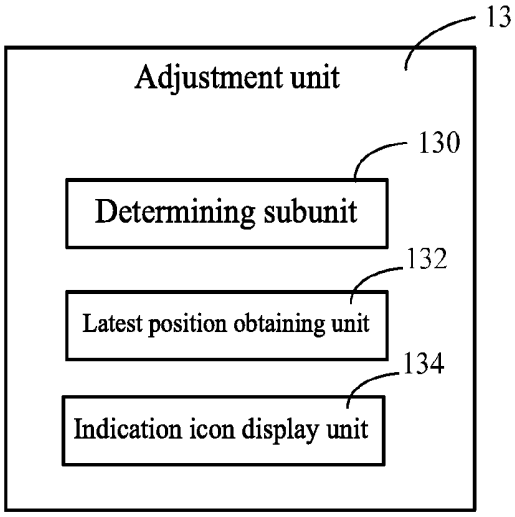

13
Adjustment unit
130
Determining subunit
132
Latest position obtaining unit
134
Indication icon display unit

Fig. 10

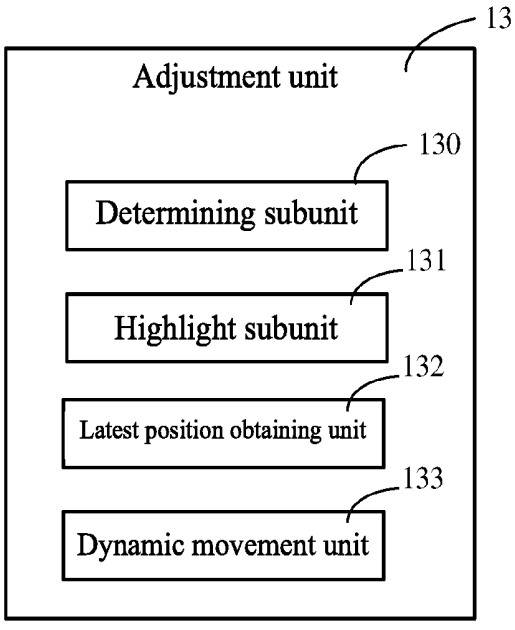

13
Adjustment unit
130
Determining subunit
131
Highlight subunit
132
Latest position obtaining unit
133
Dynamic movement unit

Fig. 11

MONITORING PARAMETER THRESHOLD VALUE SETTING METHOD AND MONITORING SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of PCT Application No. PCT/CN2015/090927, filed Sep. 28, 2015, for "MONITORING PARAMETER THRESHOLD VALUE SETTING METHOD AND MONITORING SYSTEM," which is incorporated herein by reference.

TECHNICAL FIELD

[0002] The present disclosure relates to the medical field and in particular to a monitoring parameter threshold setting method and a monitoring system.

BACKGROUND

[0003] Conventionally, patient monitors involve various threshold settings, such as setting an alarm threshold for a certain monitoring parameter. It is relatively simple to set a threshold for a single monitoring parameter in order to determine whether a measured value is too low or too high, in which case it is only necessary to provide a simple threshold setting input region next to a parameter displayed in text on a setting page, such that a user can input a desired threshold (numerical value) therein. However, some monitoring parameters have numerous threshold indicators and threshold settings for some monitoring parameters may be interrelated. For example, where a parameter is delimited by a single threshold, values exceeding the threshold being regarded as abnormal, and values below the threshold being normal, this parameter can be said to have only one threshold indicator. Alternatively, where three states, i.e. high, medium and low states, are defined for a parameter by two different thresholds, this parameter can be said to have two threshold indicators, i.e. an upper threshold indicator and a lower threshold indicator. In some cases, in order to determine a special condition of a patient, threshold indicators of two or more parameters need to be combined for joint determination. In these cases, it is difficult for a user to determine the relationship between various threshold settings from existing threshold interfaces. Therefore, the user (such as a nurse) needs to completely rely on associative memory and experience to perform threshold setting for the monitoring parameters, so that it can be particularly complicated to set multiple associated monitoring thresholds, for example, and inaccurate settings occur frequently.

SUMMARY

[0004] A technical problem to be solved in embodiments of the present disclosure is to provide a monitoring parameter threshold setting method and a monitoring system. When a user sets a threshold of a monitoring parameter, graphical indications can be provided to improve the convenience or accuracy of threshold setting.

[0005] To resolve the above technical problem, one aspect of the embodiments of the present disclosure provides a monitoring parameter threshold setting method including the following steps: selecting at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set; forming and displaying a threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter, wherein the threshold indicator corresponds to an indication icon in the threshold setting indication graph; and in response to a threshold value of the threshold indicator set by a user, adjusting the indication icon corresponding to the threshold indicator in the threshold setting indication graph to a corresponding position.

[0006] The adjusting step may further include: determining a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator; obtaining a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and adjusting the indication icon to the latest position in the threshold setting indication graph.

[0007] In one embodiment, the adjusting step may include: determining a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator; highlighting the indication icon corresponding to the threshold indicator operated by the user in the threshold setting indication graph; obtaining a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator of the monitoring parameter; and dynamically moving the indication icon from a current position to the latest position in the threshold setting indication graph.

[0008] The highlighting step may further include highlighting the indication icon by flickering, color changing, or thickness changing.

[0009] The step of forming and displaying a threshold setting indication graph may include: when two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and an indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region jointly enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division.

[0010] The threshold indicator of the monitoring parameter may include the following: the monitoring parameter includes PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein a PCVS measurement unit is selected as the abscissa and a heart rate measurement unit is selected as the ordinate.

[0011] An indication icon corresponding to the ventricular tachycardia PCVS is a first adjustable segment parallel to the ordinate, an indication icon corresponding to the ventricular bradycardia PCVS is a second adjustable segment parallel to the ordinate, and the first adjustable segment and the second adjustable segment are parallel to each other; an indication

icon corresponding to the ventricular tachycardia heart rate is a third adjustable segment parallel to the abscissa, an indication icon corresponding to the ventricular bradycardia heart rate is a fourth adjustable segment parallel to the abscissa, and the third adjustable segment and the fourth adjustable segment are parallel to each other.

[0012] The step of forming and displaying a threshold setting indication graph may include: when one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein the measurement unit is selected as an ordinate, and a maximum value of the ordinate is determined; and an indication icon corresponding to a threshold of the threshold indicator of the monitoring parameter is a segment parallel to the abscissa, and the at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

[0013] The threshold indicator of the monitoring parameter includes: a maximum value of diastolic pressure, a minimum value of diastolic pressure, a maximum value of systolic pressure, and a minimum value of systolic pressure, where a measurement unit of the maximum value of diastolic pressure is selected as the ordinate.

[0014] Another aspect of the embodiments of the present disclosure further provides a monitoring system, comprising: a monitoring unit, configured to obtain a monitoring parameter of a patient; a selection unit, configured to allow a user to select at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set; a threshold setting indication graph display unit, configured to form and display a threshold setting indication graph according to the threshold indicator, wherein the threshold indicator corresponds to an indication icon in the threshold setting indication graph; and an adjustment unit, configured to adjust the indication icon corresponding to the threshold indicator in the threshold setting indication graph to a corresponding position in response to a threshold value of the threshold indicator set by a user.

[0015] The adjustment unit may further include: a determining subunit, configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator of the monitoring parameter; a latest position obtaining unit, configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and an indication icon display unit, configured to adjust the indication icon to the latest position in the threshold setting indication graph.

[0016] The adjustment unit may further include: a determining subunit, configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator; a highlight subunit, configured to highlight the indication icon corresponding to the threshold indicator operated by the user in the threshold setting indication graph; a latest position obtaining unit, configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and a dynamic movement unit, configured to dynamically move the indication icon from a current position to the latest position in the threshold setting indication graph.

[0017] The highlight subunit may highlight the indication icon by flickering, color changing, or thickness changing.

[0018] The threshold setting indication graph display unit may be further configured to: when two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, form and display a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and an indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region jointly enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division.

[0019] The monitoring parameter may include PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein a PCVS measurement unit is selected as the abscissa and a heart rate measurement unit is selected as the ordinate.

[0020] An indication icon corresponding to the ventricular tachycardia PCVS is a first adjustable segment parallel to the ordinate, an indication icon corresponding to the ventricular bradycardia PCVS is a second adjustable segment parallel to the ordinate, and the first adjustable segment and the second adjustable segment are parallel to each other; an indication icon corresponding to the ventricular tachycardia heart rate is a third adjustable segment parallel to the abscissa, an indication icon corresponding to the ventricular bradycardia heart rate is a fourth adjustable segment parallel to the abscissa, and the third adjustable segment and the fourth adjustable segment are parallel to each other.

[0021] The threshold setting indication graph display unit may be further configured to: when one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein the measurement unit is selected as an ordinate, and a maximum value of the ordinate is determined; and an indication icon corresponding to a threshold of the threshold indicator of the monitoring parameter is a segment parallel to the abscissa, and the at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

[0022] The threshold indicator of the monitoring parameter includes: a maximum value of diastolic pressure, a

minimum value of diastolic pressure, a maximum value of systolic pressure, and a minimum value of systolic pressure, where a measurement unit of the maximum value of diastolic pressure is selected as the ordinate.

[0023] By implementing the embodiments of the present disclosure, the following beneficial effects can be achieved. When a user sets a threshold of at least one threshold indicator of a monitoring parameter, a preset threshold setting indication graph can be used to indicate a relationship between thresholds of the threshold indicators of the monitoring parameter.

[0024] Furthermore, a threshold indicator of the monitoring parameter that is being set is highlighted, different from the other threshold indicators of the monitoring parameter.

[0025] Moreover, when a threshold value of a threshold indicator of the monitoring parameter is adjusted, a graphical change corresponding to the threshold of the threshold indicator of the monitoring parameter is displayed in the threshold setting indication graph.

[0026] Therefore, by implementing the embodiments of the present disclosure, when a user sets a threshold of a monitoring parameter, graphical indications can be realized, so as to improve the accuracy of the threshold setting.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] FIG. **1** is a main flow chart of an embodiment of a monitoring parameter threshold setting method provided by the present disclosure;

[0028] FIG. **2** is a detailed flow chart of an embodiment of step **S14** in FIG. **1**;

[0029] FIG. **3** is a detailed flow chart of another embodiment of step **S14** in FIG. **1**;

[0030] FIG. **4** is a schematic diagram of an interface for setting thresholds of arrhythmia-related monitoring parameters to which a monitoring parameter threshold setting method provided by the present disclosure is applied;

[0031] FIG. **5** is a schematic diagram of an interface after a threshold of an arrhythmia-related monitoring parameter is adjusted in FIG. **4**;

[0032] FIG. **6** is a schematic diagram of an interface for setting thresholds of blood pressure-related monitoring parameters by applying a monitoring parameter threshold setting method provided by the present disclosure;

[0033] FIG. **7** is a schematic diagram of an interface after a blood pressure-related threshold is adjusted in FIG. **6**;

[0034] FIG. **8** is a schematic diagram of an interface for setting thresholds of arrhythmia-related monitoring parameters in another embodiment of the present disclosure;

[0035] FIG. **9** is a schematic structural diagram of an embodiment of a system for setting a threshold of a monitoring parameter provided by the present disclosure;

[0036] FIG. **10** is a schematic structural diagram of an embodiment of an adjustment unit in FIG. **9**; and

[0037] FIG. **11** is a schematic structural diagram of another embodiment of the adjustment unit in FIG. **9**.

DETAILED DESCRIPTION

[0038] The technical solutions of the embodiments of the present disclosure will be described below clearly and comprehensively in conjunction with the drawings. The embodiments described are merely some embodiments of the present disclosure and are not all of the possible embodiments. Based on the embodiments given in the present disclosure, all other embodiments that would be obtained by those of ordinary skill in the art without expending inventive effort shall fall within the scope of protection of the present disclosure.

[0039] FIG. **1** shows a monitoring parameter threshold setting method according to the present disclosure. In this embodiment, when a user sets a threshold of a monitoring parameter of a monitor, graphical indications are used to prompt the user. The method may include the following steps:

[0040] Step **S10**: Select at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set. Generally, the at least one threshold indicator of the monitoring parameter is in a linked relationship. For example, in some cases, values of two threshold indicators of the parameter may define an alarm region or result in a status determination.

[0041] Step **S12**: Form and display a corresponding threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter, where each threshold indicator of the monitoring parameter corresponds to an indication icon in the threshold setting indication graph.

[0042] Step **S14**: In response to setting a threshold value of each threshold indicator of the monitoring parameter by a user, adjust the indication icon corresponding to the threshold indicator of the monitoring parameter in the threshold setting indication graph to a corresponding position.

[0043] As an example, step **S12** may include:

[0044] if two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, where one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and

[0045] the indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each region obtained after division.

[0046] In this example, the threshold indicator of the monitoring parameters may include: a ventricular tachycardia PCVS threshold, a ventricular bradycardia PCVS threshold, a ventricular tachycardia heart rate threshold, and a ventricular bradycardia heart rate threshold, and a measurement unit of the ventricular tachycardia PCVS threshold may be selected as the abscissa, and a measurement unit of the ventricular tachycardia heart rate threshold may be selected as the ordinate.

[0047] In another example, step **S12** may include:

[0048] if one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, where the measurement unit corresponding to the

threshold indicator of the monitoring parameter is selected as an ordinate, and a maximum value of the ordinate is determined; and

[0049] an indication icon corresponding to a threshold of the threshold indicator of the monitoring parameter is a segment parallel to an abscissa, and the at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

[0050] In this example, the threshold indicator of the monitoring parameter may include: a maximum value of diastolic pressure, a minimum value of diastolic pressure, a maximum value of systolic pressure, and a minimum value of systolic pressure, where a measurement unit of the maximum value of diastolic pressure may be selected as the ordinate.

[0051] Referring to FIG. **2**, a detailed flow chart of an embodiment of step S**14** in FIG. **1** is shown. In this embodiment, step S**14** includes:

[0052] Step S**140**: Determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator of the monitoring parameter.

[0053] Step S**142**: Obtain a latest position of the indication icon corresponding to the threshold indicator of the monitoring parameter according to a latest threshold value set by the user for the threshold indicator of the monitoring parameter.

[0054] Step S**144**: Display the indication icon at the latest position in the threshold setting indication graph.

[0055] Referring to FIG. **3**, a detailed flow chart in another embodiment of step S**14** in FIG. **1** is shown. In this embodiment, step S**14** includes:

[0056] Step S**140**: Determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator of the monitoring parameter.

[0057] Step S**141**: Highlight the indication icon corresponding to the threshold indicator of the monitoring parameter operated by the user in the threshold setting indication graph. In specific embodiments, the indicator icon may be highlighted by flickering, color changing, or thickness changing.

[0058] Step S**142**: Obtain a latest position of the indication icon corresponding to the threshold indicator of the monitoring parameter according to a latest threshold value set by the user for the threshold indicator of the monitoring parameter.

[0059] Step S**143**: Dynamically move the indication icon from a current position to the latest position in the threshold setting indication graph.

[0060] For the convenience of understanding the technical solution of the present disclosure, two specific application examples are described below.

[0061] Referring to FIG. **4** and FIG. **5**, an example for setting thresholds of arrhythmia-related monitoring parameters by applying a monitoring parameter threshold setting method provided by the present disclosure is shown.

[0062] Threshold indicators of the arrhythmia-related monitoring parameters include ventricular tachycardia PCVS, ventricular bradycardia PCVS, a ventricular tachycardia heart rate, a ventricular bradycardia heart rate, and other threshold indicators. There is an association relationship of threshold indicator settings of these parameters. PCVS refers to premature ventricular contractions, and the PCVS refer to the number of premature ventricular contractions.

[0063] It can be seen from the schematic diagram of an interface shown in FIG. **4** that one or more threshold setting regions may be set for each monitoring parameter, and the size of a threshold of the monitoring parameter can be adjusted by arrows on both sides. If there is only a single threshold indicator for a single monitoring parameter, one threshold setting region may be correspondingly set. If there are two threshold indicators for a single monitoring parameter, two threshold setting regions may be set, and if there are more threshold indicators, more threshold setting regions may be set. In some embodiments, it is also possible to input a threshold of a monitoring parameter directly by using a hardware keyboard or a virtual keyboard. The monitoring parameter referred to herein may be a direct parameter value measured directly from a patient, or may be an indirect parameter calculated or analyzed based on a measured signal.

[0064] Furthermore, a two-dimensional threshold setting indication graph may be displayed on the interface. In the threshold setting indication graph, one of multiple measurement units corresponding to the multiple threshold indicators of the monitoring parameters, that is, a ventricular heart rate (bpm), is selected as an ordinate, and it is determined that a maximum value of the ordinate is 200, and another one of the multiple measurement units, that is, continuous PVCs (beats), is selected as an abscissa, and it is determined that a maximum value of the abscissa is 99.

[0065] In the threshold setting indication graph, a corresponding indication icon is set for each monitoring parameter threshold indicator. These indication icons may be in the form of segments or cursors parallel to the abscissa or the ordinate. Specifically, for the parameter PCVS, the parameter has two settable thresholds: a ventricular tachycardia PCVS threshold and a ventricular bradycardia PCVS threshold. Similarly, the heart rate also has two settable thresholds: a ventricular tachycardia heart rate threshold and a ventricular bradycardia heart rate threshold. Indication icons corresponding to the ventricular tachycardia PVCs and the ventricular bradycardia PVCs are segments parallel to the ordinate and are also segments perpendicular to the PCVS axis. Indication icons corresponding to the ventricular tachycardia heart rate and the ventricular bradycardia heart rate are segments parallel to the abscissa and are also segments perpendicular to the heart rate axis. These segments divide a region defined by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line (that is, a region determined by the PCVS axis and the heart rate axis and their respective maximum values), and expected analysis result information is displayed in each small region obtained after division. Specifically, the enclosed region is divided into several small regions such as A, B, C, D, and E, and the expected analysis result information is displayed in these small regions. For example, when data monitored by a monitor falls into the region E, that is, a measured ventricular heart rate is below **50** and continuous PVCs are over 5 cycles, it indicates that a patient under testing may suffer ventricular bradycardia.

[0066] In a specific example, the process of dividing the enclosed region into small regions may be implemented by

using the following method. First, a certain number of horizontal lines are intersected with vertical lines to preliminarily divide the entire region, for example, two horizontal lines are intersected with two vertical lines to divide the region into nine sub-regions. Then, it is confirmed whether some of the sub-regions need to be merged according to an analysis criterion, and if necessary, corresponding merging is performed. Therefore, in FIG. **4**, the region is finally divided into five sub-regions: A, B, C, D, and E according to a diagnostic criterion. It can be understood that, for different application scenarios, the number of sub-regions that are finally obtained by division and the size of each sub-region need to be comprehensively determined in combination with a diagnostic criterion and the number of parameters (dimensions).

[0067] In this way, when the user sets thresholds of the monitoring parameters, the relationship between the thresholds of the threshold indicators of the monitoring parameters can be intuitively seen from the threshold setting indication graph, so as to guide the user to accurately set the thresholds of the monitoring parameters.

[0068] Furthermore, to facilitate more intuitive use by the user, when the user operates a threshold indicator of a monitoring parameter, for example, when the user places a mouse cursor in a ventricular tachycardia PVCs threshold setting region, in the threshold setting indication graph, an indicator icon (segment) corresponding to the ventricular tachycardia PVCs is highlighted as a bold segment in the graph, so that the user can easily learn a corresponding position in the threshold setting indication graph of a threshold of the ventricular tachycardia PVCs currently set. It can be understood that, in practical applications, an indicator icon may also be highlighted in other ways according to needs, such as changing a color or flickering.

[0069] Similarly, it can be understood that, in some other implementations, a threshold setting region may also not be deployed in FIG. **4**, but corresponding thresholds are indicated in indication icons in the threshold setting indication graph, and an indication icon (segment) may be dragged using a mouse, so as to adjust a threshold of a corresponding threshold indicator.

[0070] Referring to FIG. **5**, there is shown a schematic diagram of an interface after a threshold of a threshold indicator of an arrhythmia-related monitoring parameter is adjusted in FIG. **4**. In FIG. **5**, the threshold of the ventricular tachycardia PVCs is adjusted from 6 to 8, and in the threshold setting indication graph, the indication icon (segment) corresponding to the ventricular tachycardia PVCs is adjusted to a position corresponding to an abscissa **8**.

[0071] It can be understood that the adjustment of the indication icon may be displayed statically or dynamically.

[0072] For example, in one example, when the threshold of the ventricular tachycardia PVCs is adjusted to 8 in the threshold setting region, the corresponding indication icon is directly displayed at the position corresponding to the abscissa **8** in the threshold setting indication graph, and the indication icon is no longer displayed at a position corresponding to an abscissa **6**.

[0073] In another example, when the threshold of the ventricular tachycardia PVCs is adjusted to 8 in the threshold setting region, in the threshold setting indication graph, the corresponding indication icon is dynamically moved (at a certain speed) from the position corresponding to the abscissa **6** to the position corresponding to the abscissa **8**, and the moving process may be implemented by using, for example, an animation plug-in.

[0074] Referring to FIG. **6** and FIG. **7**, there is shown an example for setting thresholds of blood pressure-related monitoring parameters by applying a monitoring parameter threshold setting method provided by the present disclosure.

[0075] Referring to FIG. **6**, threshold indicators of the blood pressure-related monitoring parameters include a maximum value (Max) of diastolic pressure, a minimum value (Min) of diastolic pressure, a maximum value (Max) of systolic pressure, a minimum value (Min) of systolic pressure, and the like. It can be seen from the schematic diagram of an interface shown in FIG. **6** that a threshold of a threshold indicator of each monitoring parameter may be set by using a threshold setting region. For example, the size of the threshold may be adjusted by using arrows on both sides. Certainly, other methods mentioned above in the description of FIG. **4** may also be used.

[0076] Furthermore, a two-dimensional threshold setting indication graph is displayed on the interface. In the threshold setting indication graph, a pressure (mmHg) in measurement units corresponding to the multiple threshold indicators of the monitoring parameters is selected as an ordinate, and it is determined that a maximum value of the ordinate is 200.

[0077] In the threshold setting indication graph, a corresponding indication icon is set for each monitoring parameter threshold indicator. These indication icons are segments parallel to an abscissa, and these segments divide a region defined by the abscissa, an abscissa maximum value line, a line parallel to the ordinate, and a line parallel to an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division. Specifically, the enclosed region is divided into several small regions such as A, B, and C, and the expected analysis result information is displayed in these small regions. For example, when data monitored by a monitor falls into the region A, that is, a measured diastolic pressure is greater than 100, it indicates that a patient under test may suffer a high blood pressure.

[0078] In this way, when the user sets thresholds of the threshold indicators of the monitoring parameters, the relationship between the thresholds of the threshold indicators of the monitoring parameters can be intuitively seen from the threshold setting indication graph, so as to guide the user to accurately set the thresholds of the monitoring parameters.

[0079] Furthermore, to facilitate more intuitive use by the user, when the user operates a threshold indicator of a monitoring parameter, for example, when the user places a mouse cursor in a systolic pressure Min threshold setting region, in the threshold setting indication graph, an indicator icon (segment) corresponding to the systolic pressure Min is highlighted as a bold segment in the graph, so that the user can easily learn a corresponding position in the threshold setting indication graph of the systolic pressure Min currently set.

[0080] Similarly, for various possible variations of the threshold setting indication graph in FIG. **6**, reference may be made to the foregoing description of FIG. **4**, the details of which are not repeated here.

[0081] As shown in FIG. **7**, a schematic diagram of an interface after a threshold of a threshold indicator of a blood pressure-related monitoring parameter is adjusted in FIG. **6**

is shown. In FIG. **7**, the threshold of the systolic pressure Min is adjusted from 90 in FIG. **6** to **100**, and in the setting indication graph, the indication icon (segment) corresponding to the systolic pressure Min is adjusted to a position corresponding to an ordinate **100**.

[0082] In other examples, in the threshold setting indication graph in FIG. **6**, the measurement unit pressure (mmHg) corresponding to the multiple threshold indicators of the monitoring parameters may also be selected as the abscissa, and the object of the present disclosure can also be achieved using a similar principle.

[0083] In another embodiment of the present disclosure, as shown in FIG. **8**, the arrhythmia-related threshold setting interface is a graphical threshold setting interface, and the graphical threshold setting interface is based on a two-dimensional coordinate system. A horizontal axis represents a value of a first monitoring parameter and a vertical axis represents a value of a second monitoring parameter, where the first monitoring parameter is a parameter continuous PVCs and the second monitoring parameter is a ventricular heart rate (or heart rate). The horizontal axis and the vertical axis are respectively cut off by maximum values of the corresponding monitoring parameters, and multiple values may be respectively displayed on the horizontal axis and the vertical axis. Steps of the numerical values may be set according to needs, for example, the values may be displayed in equal differences, or may be displayed with jumps. According to the horizontal axis, the vertical axis, a maximum value in the horizontal axis, and a maximum value in the vertical axis, a rectangular region may be formed, representing a joint measurement interval or a joint effective measurement interval.

[0084] For a first monitoring parameter, it has two adjustable thresholds, which are respectively defined as a first threshold and a second threshold. Specifically, the first threshold and the second threshold are respectively a ventricular tachycardia PCVs threshold and a ventricular bradycardia PCVs threshold. For a second monitoring parameter, it also has two adjustable thresholds, which are respectively defined as a third threshold and a fourth threshold. Specifically, the third threshold and the fourth threshold are respectively a ventricular tachycardia heart rate threshold and a ventricular bradycardia heart rate threshold. In the present disclosure, because different thresholds may be derived from a monitoring parameter according to diagnostic needs, sometimes the monitoring parameter is not divided into such fixed states as high and low or normal/abnormal according to measured values, but threshold indicators with specific meanings, such as ventricular tachycardia PCVs, ventricular bradycardia PCVs, a ventricular tachycardia heart rate, and a ventricular bradycardia heart rate are derived in combination with a diagnostic function. Certainly, this embodiment can also be applied to the case of a simple division of thresholds.

[0085] In the embodiment shown in FIG. **8**, the first threshold, the second threshold, the third threshold, and the fourth threshold respectively correspond to a threshold icon (which may be respectively referred to as a first threshold icon, a second threshold icon, a third threshold icon, and a fourth threshold icon). Specifically, in this embodiment, the threshold icons are a ventricular tachycardia PVCs threshold icon, a ventricular bradycardia PVCs threshold icon, a ventricular tachycardia heart rate threshold icon, and a ventricular bradycardia heart rate threshold icon respectively. The ventricular tachycardia PVCs threshold icon and the ventricular bradycardia PVCs threshold icon are segments parallel to each other and parallel to the longitudinal axis. The ventricular tachycardia heart rate threshold icon and the ventricular bradycardia heart rate are segments parallel to each other and parallel to the horizontal axis. In this way, the above four threshold icons divide the joint measurement interval into several analysis result intervals, such as non-continuous ventricular tachycardia region (A), a ventricular tachycardia region (B), and a ventricular rhythm region (C). Assuming that the number of settable thresholds of the first monitoring parameter is m, the number of settable thresholds of the second monitoring parameter is n, and the number of analysis result intervals is Q. In the embodiment shown in FIG. **8**, m=2, n=2, and $Q<(m+1)*(n+1)$. For setting of thresholds of some other monitoring parameters, Q may be equal to $(m+1)*(n+1)$.

[0086] After the thresholds are determined, the ventricular tachycardia PVCs threshold icon, the ventricular bradycardia PVCs threshold icon, the ventricular tachycardia heart rate threshold icon, and the ventricular bradycardia heart rate threshold icon remain at the corresponding threshold values respectively. When a user needs to adjust one or more of these thresholds (threshold indicators), a corresponding change can be made by moving, dragging, or sliding a corresponding threshold icon. When a threshold icon is selected, the threshold icon produces a visual effect different from the other threshold icons to prompt the user that moving the current threshold icon will change its threshold setting. As shown in FIG. **8**, when the ventricular tachycardia PVCs threshold icon is selected, its threshold icon (segment) becomes thicker. During movement, the user can determine a current threshold value according to a corresponding value in the horizontal axis. In some other embodiments, when one threshold icon is selected, the threshold icon may also be distinguished from the threshold icons that are not currently selected by flickering, changing a color, changing to a dashed line, or the like. The current threshold may also be directly displayed near the threshold icon.

[0087] The above method can be applied to a single-parameter graphical threshold setting interface (such as one-dimensional coordinates), three-parameter graphical threshold setting interface (such as three-dimensional coordinates).

[0088] Shown in FIG. **9** is a schematic structural diagram of an embodiment of a system for setting a threshold of a monitoring parameter provided by the present disclosure. In this embodiment, the system **1** for setting a threshold of a monitoring parameter specifically includes:

[0089] a selection unit **11** configured to allow a user to select at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set;

[0090] a threshold setting indication graph display unit **12** configured to form and display a corresponding threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter, where each threshold indicator of the monitoring parameter corresponds to an indication icon in the threshold setting indication graph, and the indication icon may be a segment or a cursor; and

[0091] an adjustment unit **13** configured to adjust the indication icon corresponding to the threshold indicator of the monitoring parameter in the threshold setting indication

graph to a corresponding position in response to setting a threshold value of each threshold indicator of the monitoring parameter by a user.

[0092] Specifically, the selection unit **11** may select a threshold indicator of the monitoring parameter and a threshold by using a threshold setting region, or may directly select an indication icon in the threshold setting indication graph displayed by the threshold setting indication graph display unit **12**, to select a threshold indicator of the monitoring parameter for which a threshold needs to be set. For example, the threshold indicator of the monitoring parameter that needs to be set may be selected directly by selecting a horizontal line or a vertical line in the threshold setting indication graph, and the threshold of the corresponding threshold indicator of the monitoring parameter may be adjusted by moving a position of the horizontal line or the vertical line. For specific forms and functions of the threshold setting region and the threshold setting indication graph, reference may be made to the description of FIG. **4**.

[0093] Specifically, in one example, the threshold setting indication graph display unit **12** is further configured to:

[0094] if two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, form and display a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, where one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and

[0095] an indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region jointly enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division.

[0096] In this example, the threshold indicator of the monitoring parameters may include: a ventricular tachycardia PCVS threshold, a ventricular bradycardia PCVS threshold, a ventricular tachycardia heart rate threshold, and a ventricular bradycardia heart rate threshold, and a measurement unit of the ventricular tachycardia PCVS threshold is used as the abscissa, and a measurement unit of the ventricular tachycardia heart rate threshold is used as the ordinate.

[0097] In addition, in another example, the threshold setting indication graph display unit **12** is further configured to:

[0098] if one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter, form and display a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, where the measurement unit corresponding to the at least one threshold indicator of the monitoring parameter is selected as an ordinate, and a maximum value of the ordinate is determined; and

[0099] an indication icon corresponding to each threshold indicator of the monitoring parameter is parallel to an abscissa, and at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

[0100] In FIG. **10**, there is shown a schematic structural diagram of an embodiment of the adjustment unit in FIG. **9**. In this embodiment, the adjustment unit **13** further includes:

[0101] a determining subunit **130** configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator of the monitoring parameter;

[0102] a latest position obtaining unit **132** configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and

[0103] an indication icon display unit **134** configured to display the indication icon at the latest position in the threshold setting indication graph.

[0104] Referring to FIG. **11**, a structural schematic diagram of another embodiment of the adjustment unit in FIG. **9** is shown. In this embodiment, the adjustment unit **13** further includes:

[0105] a determining subunit **130** configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator of the monitoring parameter;

[0106] a highlight subunit **131** configured to highlight the indication icon corresponding to the threshold indicator of the monitoring parameter operated by the user in the threshold setting indication graph, where the highlight subunit highlights the indicator icon by flickering, color changing, or thickness changing;

[0107] a latest position obtaining unit **132** configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and

[0108] a dynamic movement unit **133**, configured to dynamically move the indication icon from a current position to the latest position in the threshold setting indication graph.

[0109] The present disclosure further provides a monitor, which includes at least the system for setting a threshold of a monitoring parameter described above in combination with FIGS. **9-11**. For more details, reference may be made to the foregoing description of FIGS. **9-11**, which are not repeated here.

[0110] It can be understood that the above embodiments in the method, the system, and the monitor are all examples. In other applications, if three or more measurement units correspond to multiple threshold indicators of a monitoring parameter, a threshold setting indicator graph having more dimensions may also be used. For example, in some examples, if three measurement units correspond to multiple threshold indicators of a monitoring parameter, each measurement unit may be used as a coordinate to form a three-dimensional threshold setting indication graph.

[0111] Finally, by implementing the method and system provided by the embodiments of the present disclosure, the following beneficial effects can be achieved. First, by implementing the embodiments of the present disclosure, when a user sets a threshold of at least one threshold indicator of a monitoring parameter, a preset threshold setting indication graph can be used to indicate a relationship between thresholds of the threshold indicators of the monitoring parameter.

[0112] Furthermore, a threshold indicator of the monitoring parameter that is being set is highlighted, different from the other threshold indicators of the monitoring parameter.

[0113] Moreover, when a threshold value of a threshold indicator of the monitoring parameter is adjusted, a graphical change corresponding to the threshold of the threshold indicator of the monitoring parameter is displayed in the threshold setting indication graph.

[0114] Therefore, by implementing the embodiments of the present disclosure, when a user sets a threshold of a monitoring parameter, graphical indications can be realized, so as to improve the accuracy of threshold setting.

[0115] It may be understood by those skilled in the art that all or part of the processes for implementing the method in the foregoing embodiments may be implemented by a computer program instructing relevant hardware. The program may be stored in a non-transitory computer-readable storage medium. A processor may execute the program to perform the methods described herein. The storage medium may be a magnetic disk, an optical disk, a read-only memory (ROM), a random access memory (RAM), or the like.

[0116] The technical features or operation steps described in the embodiments of the present disclosure may be combined in any suitable manner. Those skilled in the art can easily understand that the order of the steps or actions in the method described in the embodiments of the present disclosure may be changed. Therefore, unless a specific order is required otherwise, any order shown in the drawings or detailed description is for illustrative purposes only, and is not a necessary order.

[0117] Disclosed above is merely examples of presently preferred embodiments of the present disclosure and certainly cannot be used to limit the scope of the present disclosure. Therefore, equivalent changes made according to the claims of the present disclosure are still covered by the present disclosure.

1. A monitoring parameter threshold setting method, comprising:

selecting at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set;

forming and displaying a threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter, wherein the threshold indicator corresponds to an indication icon in the threshold setting indication graph; and

in response to a threshold value of the threshold indicator set by a user, adjusting the indication icon corresponding to the threshold indicator in the threshold setting indication graph to a corresponding position.

2. The monitoring parameter threshold setting method of claim **1**, wherein adjusting further comprises:

determining a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator;

obtaining a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and

adjusting the indication icon to the latest position in the threshold setting indication graph.

3. The monitoring parameter threshold setting method of claim **1**, wherein adjusting further comprises:

determining a threshold indicator of the monitoring parameter that is currently operated by the user, and an indication icon corresponding to the threshold indicator;

highlighting the indication icon corresponding to the threshold indicator operated by the user in the threshold setting indication graph;

obtaining a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator of the monitoring parameter; and

dynamically moving the indication icon from a current position to the latest position in the threshold setting indication graph.

4. The monitoring parameter threshold setting method of claim **3**, wherein highlighting comprises highlighting the indication icon by flickering, color changing, or thickness changing.

5. The monitoring parameter threshold setting method of claim **1**, wherein the step of forming and displaying the threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter comprises:

when two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and

an indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region jointly enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division.

6. The monitoring parameter threshold setting method of claim **5**, wherein the monitoring parameter comprises PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein a PCVS measurement unit is selected as the abscissa and a heart rate measurement unit is selected as the ordinate.

7. The monitoring parameter threshold setting method of claim **1**, wherein the step of forming and displaying a threshold setting indication graph according to the at least one threshold indicator of the monitoring parameter comprises:

when one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter, forming and displaying a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein the measurement unit is

selected as an ordinate, and a maximum value of the ordinate is determined; and

an indication icon corresponding to a threshold of the threshold indicator of the monitoring parameter is a segment parallel to the abscissa, and the at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

8. The monitoring parameter threshold setting method of claim **7**, wherein the threshold indicator of the monitoring parameter comprises: a maximum value of diastolic pressure, a minimum value of diastolic pressure, a maximum value of systolic pressure, and a minimum value of systolic pressure, wherein a measurement unit of the maximum value of diastolic pressure is selected as the ordinate.

9. The monitoring parameter threshold setting method of claim **1**, wherein the monitoring parameter comprises PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein the threshold setting indication graph is two-dimensional coordinates, a PCVS measurement unit is selected as an abscissa, and a heart rate measurement unit is selected as an ordinate.

10. The monitoring parameter threshold setting method of claim **9**, wherein an indication icon corresponding to the ventricular tachycardia PCVS is a first adjustable segment parallel to the ordinate, the indication icon corresponding to the ventricular bradycardia PCVS is a second adjustable segment parallel to the ordinate, and the first adjustable segment and the second adjustable segment are parallel to each other; the indication icon corresponding to the ventricular tachycardia heart rate is a third adjustable segment parallel to the abscissa, the indication icon corresponding to the ventricular bradycardia heart rate is a fourth adjustable segment parallel to the abscissa, and the third adjustable segment and the fourth adjustable segment are parallel to each other.

11. A monitoring system, comprising:

a monitoring unit configured to obtain a monitoring parameter of a patient;

a selection unit configured to allow a user to select at least one threshold indicator that is of a monitoring parameter and for which a threshold needs to be set;

a threshold setting indication graph display unit configured to form and display a threshold setting indication graph according to the threshold indicator, wherein the threshold indicator corresponds to an indication icon in the threshold setting indication graph; and

an adjustment unit configured to in response to a threshold value of the threshold indicator set by a user, adjust the indication icon corresponding to the threshold indicator in the threshold setting indication graph to a corresponding position.

12. The monitoring system of claim **11**, wherein the adjustment unit further comprises:

a determining subunit configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and the indication icon corresponding to the threshold indicator of the monitoring parameter;

a latest position obtaining unit configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and

an indication icon display unit configured to adjust the indication icon to the latest position in the threshold setting indication graph.

13. The monitoring system of claim **11**, wherein the adjustment unit further comprises:

a determining subunit configured to determine a threshold indicator of the monitoring parameter that is currently operated by the user, and the indication icon corresponding to the threshold indicator;

a highlight subunit configured to highlight the indication icon corresponding to the threshold indicator operated by the user in the threshold setting indication graph;

a latest position obtaining unit configured to obtain a latest position of the indication icon corresponding to the threshold indicator according to a latest threshold value set by the user for the threshold indicator; and

a dynamic movement unit configured to dynamically move the indication icon from a current position to the latest position in the threshold setting indication graph.

14. The monitoring system of claim **13**, wherein the highlight subunit is configured to highlight the indication icon by flickering, color changing, or thickness changing.

15. The monitoring system of claim **11**, wherein the threshold setting indication graph display unit is further configured to:

when two or more measurement units correspond to the at least one threshold indicator of the monitoring parameter, form and display a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein one of the measurement units is selected as an ordinate and a maximum value of the ordinate is determined, and another one of the measurement units is selected as an abscissa and a maximum value of the abscissa is determined; and

an indication icon corresponding to each threshold indicator of the monitoring parameter is a segment parallel to the abscissa or the ordinate, and the at least one segment divides a region jointly enclosed by the abscissa, an abscissa maximum value line, the ordinate, and an ordinate maximum value line, and expected analysis result information is displayed in each small region obtained after division.

16. The monitoring system of claim **15**, wherein the monitoring parameter comprises PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein a PCVS measurement unit is selected as the abscissa and a heart rate measurement unit is selected as the ordinate.

17. The monitoring system of claim **11**, wherein the threshold setting indication graph display unit is further configured to:

when one measurement unit corresponds to the at least one threshold indicator of the monitoring parameter,

form and display a two-dimensional threshold setting indication graph according to an association relationship of the at least one threshold indicator of the monitoring parameter, wherein the measurement unit is selected as an ordinate, and a maximum value of the ordinate is determined; and

an indication icon corresponding to a threshold of the threshold indicator of the monitoring parameter is a segment parallel to the abscissa, and the at least one segment divides a region jointly enclosed by the ordinate or a line parallel to the ordinate, an ordinate maximum value line or a line parallel to the ordinate maximum value line, and the abscissa, and expected analysis result information is displayed in each small region obtained after division.

18. The monitoring system of claim **17**, wherein the threshold indicator of the monitoring parameter comprises: a maximum value of diastolic pressure, a minimum value of diastolic pressure, a maximum value of systolic pressure, and a minimum value of systolic pressure, wherein a measurement unit of the maximum value of diastolic pressure is used as the ordinate.

19. The monitoring system of claim **11**, wherein the monitoring parameter comprises PCVS and a heart rate, the PCVS correspond to two threshold indicators: ventricular tachycardia PCVS and ventricular bradycardia PCVS, and the heart rate corresponds to two threshold indicators: a ventricular tachycardia heart rate and a ventricular bradycardia heart rate, wherein the threshold setting indication graph is two-dimensional coordinates, a PCVS measurement unit is selected as an abscissa, and a heart rate measurement unit is selected as an ordinate.

20. The monitoring system of claim **19**, wherein an indication icon corresponding to the ventricular tachycardia PCVS is a first adjustable segment parallel to the ordinate, an indication icon corresponding to the ventricular bradycardia PCVS is a second adjustable segment parallel to the ordinate, and the first adjustable segment and the second adjustable segment are parallel to each other; an indication icon corresponding to the ventricular tachycardia heart rate is a third adjustable segment parallel to the abscissa, an indication icon corresponding to the ventricular bradycardia heart rate is a fourth adjustable segment parallel to the abscissa, and the third adjustable segment and the fourth adjustable segment are parallel to each other.

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申请(专利权)人(译)	深圳迈瑞生物医疗电子股份有限公司.		
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摘要(译)

本发明实施例公开了一种监控参数阈值设置方法，包括以下步骤：选择需要阈值设置的监控参数的至少一个阈值指示;根据所述阈值指示器形成并显示相应的阈值设置图形，其中，在所述阈值设置图形中，所述阈值指示符对应于指示图标;响应用户对阈值指示的阈值设置，并将对应于阈值指示的指示图标调整到所述指示图形的对应位置。本申请实施例还公开了一种监控系统，其具有所述监控参数阈值设置方法，当用户设置监控参数的阈值时，可以提供图形指示，从而提高阈值的便利性和准确性。设置。