Heuristic Evaluation - MediPines
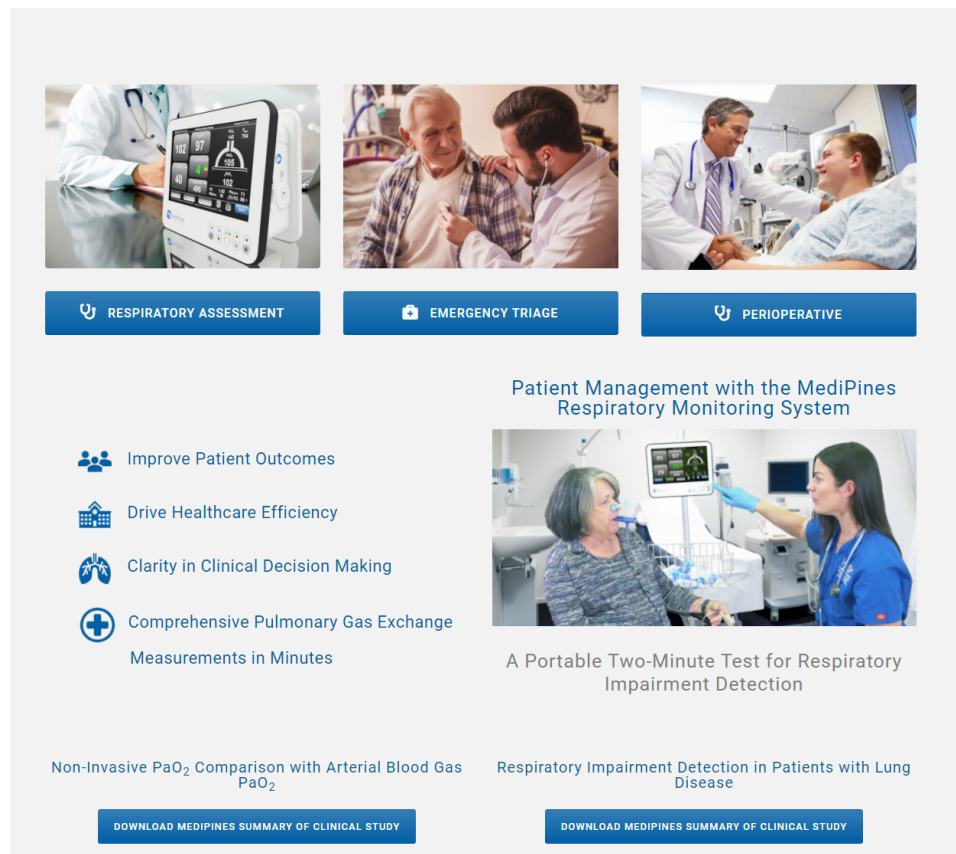
1. Visibility of System Status

Problem #1: There are no labels/headers for the various sections of the website.
Task: Scrolling through homepage
Issue: Users are unsure what they're looking at or what the different sections are. This makes users have to read every detail to understand the hierarchy.
Recommendation: Add headers for each section and group them accordingly.

Problem #2: There are no clear sections in the contact form. Personal information, address, and message are not sectioned off and are all grouped together.
Task: Filling out the contact form
Issue: Users are used to contact forms that are clearly sectioned off. Because there are no clear sections, the user has to think about which information goes where.
Recommendation: Add headers for each section.

Contact MediPines

First Name *

Last Name   Email Address *

Company

Street Address   Phone Number

Apartment, suite, etc

City   State/Province

                                    Country
ZIP / Postal Code   Select country   ⌄

Message

0 / 180

protected by reCAPTCHA
Privacy - Terms

CONTACT MEDIPINES

Problem #3: There are no clear indicators that show where the users are once they click on an item in the navigation bar. The navigation item is highlighted, but it does not show the specific page where the user is within the navigation item.
Task: Use navigation to view the product page
Issue: Once a user clicks on a page through the navigation, where they are within the website needs to be visible
Recommendation: Add breadcrumbs to always make where the user is on the website visible.

Problem #4: The tab label states "Clinicians" on the contact page

Task: Contact medicines

Issue: The user may be confused when looking at the tab label since it is not consistent with the actual page they are on

Recommendation: Make sure that the tab label states "Contact Us" instead of "Clinicians"

2. Match Between System and Real World

Problem #1: The website uses language only health professionals would understand.
Task: Scrolling through homepage
Issue: Since not all users are health professionals, the language can be confusing and not speak the user's language.
Recommendation: Have a good mix of medical jargon as well as common language that someone even without a medical background can understand. This will allow both medical professionals and potential investors to understand the information quickly and easily.

3. User Control and Freedom
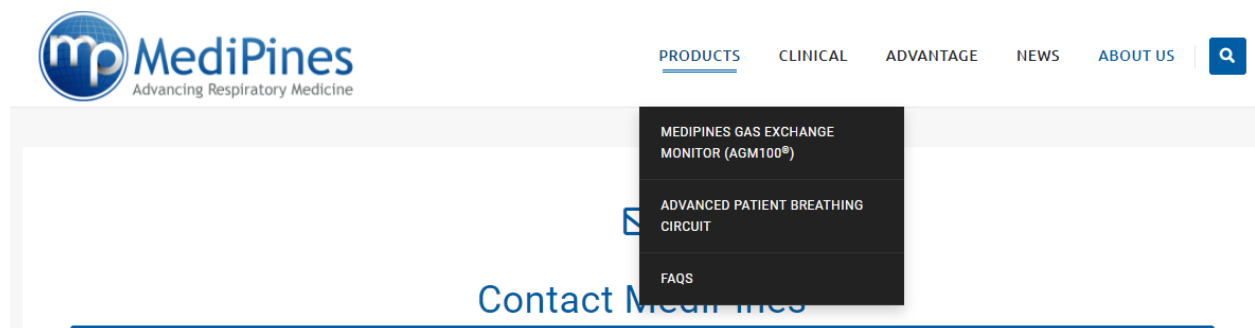The website does not violate this heuristic

4. Consistency and Standards

Problem #1: The IA of the navigation is not consistent with other websites.
Task: Visit the FAQ and contact the company
Issue: The FAQ is located under "Products" in the navigation. The contact option is under the "About Us" section.
Recommendation: Follow navigation conventions and place these two items where users will intuitively go for this information.

Problem #2: Underlined text looks like a clickable item

Task: Browse Homepage

Issue: There is an underlined text within the fold that looks like it would be the CTA or at least clickable, but there is no purpose for the underline.

Recommendation: Remove the underline, add a clear CTA.

Problem #3: Some items on the homepage are clickable but do not lead anywhere and some items look like they are clickable but are not.

Task: Browse Homepage

Issue: There is no consistency on which items are clickable and which are not due to the inconsistency with color.

Recommendation: Remove any links that are clickable but do not lead anywhere. Use a consistent color and button to indicate which items are clickable. Additionally, add secondary buttons to show the item is clickable but is not the main CTA.

Problem #4: The email at the very top looks like it would be clickable
Task: Email MediPines
Issue: The email is not clickable and users will need to copy and paste the email in order to contact the company.
Recommendation: Make email clickable or remove it completely

5. Error Prevention

Problem #1: User is only aware of errors after pressing the continue button
Task: Submit a contact request
Issue: The website lacks a disabled state button, which results in users having to click on the button to realize that they need to readjust their answers.
Recommendation: Add a disabled state button so users cannot submit forms unless everything is filled out completely.

6. Recognition Rather Than Recall
The website does not validate this heuristic

7. Flexibility And Efficiency of Use

Problem #1: The FAQ is overloaded with information
Task: Visit FAQ
Issue: There are a large number of paragraphs and too much information within each paragraph, which results in a cluttered interface. This may lead to an unpleasant user experience, particularly for advanced users.

Recommendation: Use an accordion-style pattern to display FAQ so users can quickly scroll through to find the question they're looking for.

MediPines Gas Exchange Monitor AGM100® FAQs

Is the MediPines Gas Exchange Monitor cleared by the FDA?

Yes, the device has received 510(k) clearance as the MediPines Gas Exchange Monitor (generic name of the product). The product model name given is AGM100®.

How do you use the device?

You simply turn on the monitoring unit, and apply a single patient breathing circuit, nose clip, and pulse oximeter finger sensor to the patient. Have your patient breathe normally through the mouthpiece, at rest for approximately two minutes. The device outputs all relevant measurements in real time and breathing session results are displayed on the screen.

What is included with the device?

The MediPines Gas Exchange Monitor (AGM100®) system is comprised of:

1. Portable monitoring unit
2. Reusable pulse oximeter probe
3. Single patient use nose-clip
4. Single patient use breathing circuit

What is the typical usage of this device?

The MediPines Gas Exchange Monitor is the first of its kind in measuring pulmonary gas exchange. Gas exchange is relevant for assessing and determining respiratory conditions (impaired gas exchange, pneumonia, hypoxia, etc.). The device can be used to determine respiratory measurements in qualified professional healthcare facilities for any cooperative patient that needs gas exchange evaluated and can breathe on their own. If using supplemental oxygen, patient needs to be able to safely come off of oxygen for a few minutes as determined by qualified clinicians for the typical duration of the test.

What clinical benefit will this provide?

The MediPines Gas Exchange Monitor empowers clinicians with a rapid, convenient way to assess patients' gas exchange on the spot. An immediately actionable data set is provided to support treatment choices by clinicians when dealing with all respiratory cases where impaired gas exchange is present. It is beneficial to clinicians looking for innovative solutions to speed respiratory assessment and provide rapid, safe, accurate, non-invasive, and clinically important information on patient gas exchange.

How will it be beneficial to our facility?

The MediPines Gas Exchange Monitor is portable and designed for point-of-care use in critical and chronic care settings. It provides a simple portable solution without the traditional need for a complicated testing technology and associated facility requirements.

What sets the MediPines Gas Exchange Monitor apart from other methods for measuring pulmonary gas exchange?

The Gas Exchange Monitor is non-invasive, providing clinicians with information on patient gas exchange previously only available through invasive or complicated methods. It provides critical parameters in *real-time*, unavailable in other devices.

What parameters/indices does it provide?

1. Oxygen Deficit—Breath-based index of gas exchange inefficiency that is the difference between alveolar and arterial oxygen levels, mmHg
2. $PETO_2$—End-tidal oxygen partial pressure, mmHg
3. $PETCO_2$—End-tidal carbon dioxide partial pressure, mmHg
4. PIO_2—Partial pressure of inspired oxygen, mmHg
5. Pbar—Barometric pressure of ambient air, mmHg
6. Respiratory Rate (RR)—The number of patient breaths per unit time
7. gP_aO_2™—Calculated arterial pressure of oxygen, mmHg
8. gP_aO_2™/FiO_2—Ratio of arterial partial pressure of Oxygen to fraction of oxygen inspired, mmHg
9. gP_aO_2™/P_AO_2—Arterial to alveolar partial pressure oxygen exchange ratio, dimensionless
10. Respiratory Quotient (RQ)—The ratio between the amount of carbon dioxide (CO_2) produced in metabolism and oxygen (O_2) used, dimensionless
11. Functional Oxygen Saturation (%SpO_2)—The percentage of oxygen saturated hemoglobin relative to total hemoglobin in arterial blood
12. Pulse Rate (PR)—The number of times the heart beats per minute

Which parameters are directly measured, and which are calculated?

Direct measurements are: PIO_2, $PETO_2$, $PETCO_2$, RR, PR, SpO_2, Pbar

Calculated measurements are: Oxygen Deficit, gP_aO_2™, gP_aO_2™/FiO_2, gP_aO_2™/P_AO_2, RQ

Problem #2: Overloaded screens
Task: Visit homepage
Issue: The lack of organization may frustrate an experienced users since they cannot find what they're looking for at first glance.
Recommendation: Establish a clear hierarchy and headers so both novice and experienced users can find exactly what they're looking for without putting in too much effort.

8. Aesthetic and Minimalistic Design

Problem #1: Lack of Visual Hierarchy/Not enough contrast between important elements and descriptions
Task: Visit homepage
Issue: There is a poor choice of color variation, as well as font choices to distinguish the hierarchy, which results in the failure of displaying information clearly. Buttons and text are both blue. Gray text is used for headers as well as for body text.
Recommendation: Establish a clear primary and secondary color with the right contrast to minimize ambiguity. Use the right size and typography to establish a clear hierarchy. Minimize the amount of information to reduce cognitive load in order to simplify navigation.

Problem #2: Too much information
Task: Visit Homepage/Visit Product Page
Issue: The homepage and product pages are overloaded with text.
Recommendation: Create a minimalistic appearance by only displaying the necessary text.

MediPines AGM100® Innovative Respiratory Monitor

Non-Invasive Pulmonary Gas Exchange in Minutes

The non-invasive pulmonary gas exchange monitor provides healthcare providers with information on patient gas exchange previously only available through invasive or complicated methods. The device provides critical parameters such as blood oxygen level, (PO_2) carbon dioxide levels (PETCO2), oxygen saturation, respiratory rate, pulse rate, etc. It also provides novel insights through innovative measurements including Oxygen Deficit, respiratory quotient, and PO2 (arterial to alveolar ratio) unavailable in other devices.
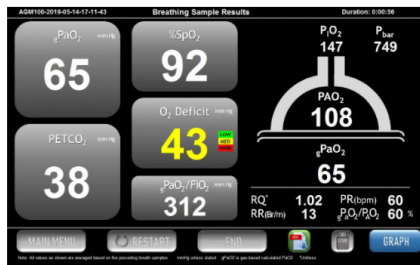
- Non-invasive
- Comprehensive Gas Exchange Measurements
- Point-of-care (POC)
- Immediate Patient Results

Actionable Data in Real Time

SCHEDULE A DEMO

MediPines AGM100® Intuitive Touch Screen

Comprehensive Interrelated Parameters to Answer Three Essential Respiratory Questions

- Is ventilation adequate? PETCO2
- Is oxygen transport from gas to blood efficient? O2 Deficit
- Is blood oxygenation sufficient? gPaO2™

Breath-by-Breath Direct Oxygen and Carbon Dioxide Measurements

Real-time Breathing Gas Waveforms for Immediate Assessment

- Instantaneous oxygen and carbon dioxide levels from exhaled gas
- Easily detect steady-state breathing patterns
- Push button operation

Problem #3: Pictures are not high quality/do not make sense

Task: Visit homepage

Issue: The images used make the website look unprofessional since they are very generic and not of high quality. Additionally, they do not accurately represent the information it is being used for.

Recommendation: Remove images or find better images that relate to the information better.

9. Health users Recognize, Diagnose, And Recover From Errors.

The website does not validate this heuristic

10. Help and Documentation

Problem: No "Help" button
Task: Find help
Issue: If a user is confused and needs further help, there is no clear option to do so. There is an email on the top, but it does not indicate to the user what the email is used for.
Recommendation: Add a clear help button.