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User Report

M.E.Technica, User Report



icare[®]
Tonometer

HAND-HELD ICARE[®] TONOMETER

Shushinkai Healthcare Corporation
Fujioka Ophthalmic Hospital
Director
Dr. Tatsuhiko Fujioka

HAND-HELD ICARE® TONOMETER

This user report has been prepared by M.E.Technica Co., Ltd. an importer and seller of medical apparatus, for the purpose of publishing user impressions and evaluations of the products.

The product we introduce to our readers in this first issue of our user reports is the hand-held ICare® tonometer, produced by ICare, Finland.

The product is characterized by its method of measuring IOP without the use of anaesthesia, even though the micro probe makes contact with the cornea of patient. How has it been received in the medical field?

We visited Dr. Tatsuhiko Fujioka, the director of Fujioka Ophthalmic Hospital in Sapporo City, Hokkaido for an interview.



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Dr. Tatsuhiko Fujioka

I had been looking for a hand-held tonometer which could be used to easily measure IOP and provide highly reliable data.

Q I was told that you and your staff actively use the hand-held ICare® tonometer in your hospital. Could you tell me what made you decide on the iCare® tonometer?

As I often travel to visit patients, so I was looking for a hand-held tonometer for simple IOP measurements that provides highly reliable data.

We also have many outpatients in wheelchairs. It is not easy for them to move over to the examination equipment, let alone place their chins on the fixed chin support.

ICare® tonometer Looked like it would solve these problems for us. That is why I decided to adopt it.

Q Have you ever used any other hand-held tonometers?

Yes, I have used standard hand-held tonometers.

Q What's your impression of using the ICare® tonometer?

Well, I think anybody can easily use it to take measurements, so long as they are careful to measure the central area of corneal, and keep the appropriate distance and angle.

No eye-drops are required and measurements can be made in a short time. These are significant advantages for the patients.

Q Are there any features that you particularly like?

First of all, it provides us with reliable data. After we introduced the iCare® tonometer, I compared IOP measurements of about 400 patients taken using applanation and non-contact tonometers as well as ICare® for comparison. I found that there was only minimal difference between the measurements made using ICare® and applanation. This was a very good result.

Some medical documents indicate that ICare® tends to give higher values for IOP than by other methods. However, as far as the measurements I made using the three methods are concerned, the data were acceptable within the normal range. What's more, the data given using ICare® compared favourably to those taken using applanation for values of 40 mmHg and above. With ICare® we can make quick measurements without needing to resort to eye-drops.

When we found any suspicious data from using the ICare®, these were found to be caused by taking the measurement off the centre of the cornea, or by the wrong angle between the ICare® and the cornea.

Second, we don't need eye-drop anesthetic, even though the ICare® is a contact tonometer. This eliminates pain from the patients when applying eye-drop anesthetics. It means this method is easy on the patient and speeds up the process of taking measurements.

Thirdly, the equipment does not need calibrating before taking the measurement, so, there's no need for the patients to wait.

Fourth, when we attach the probe (the part that makes contact with the cornea) to take the measurement, we don't touch the probe so as to keep it clean. This means we reduce the risk of in-hospital infection. We also can replace the probe and dispose of it without touching it at all.

Fifth, it only takes a short time to take the measurement. This is a great benefit for patients who find it difficult to keep the same posture.

Both patients and our staff have said how much easier examinations are.

Q Is there anyone using the ICare® other than you?

Yes, ORT and nurses also use it.

Q What is their evaluation of the tonometer?

It is easy to operate. There's no bothersome preparation required, and easy to use. They say it's easy to measure the IOP of patients they had difficulty with before.

Q How about your patients?

I hear they feel much more comfortable because they need to move about less than before. I was happy to hear a patient who hated IOP examinations say he was happy that examinations done with ICare® didn't make him feel uncomfortable.

Q Could you tell me how you currently use the ICare®?

Not long ago we were mainly using non-contact tonometry. We used non-contact tonometry first and if glaucoma was suspected, we used the ICare® to take the IOP. If glaucoma was still suspected, we used applanation tonometry. However, this 3-step procedure wasted a lot of time, which was a major problem.

Then, we thought that using the ICare® for the first measurement would solve this problem.

We now have 5 ICare® tonometers in our main hospital. These have helped us to expedite the examinations and reduce the trouble involved.

Moreover, the ICare® is a space-saving device, so we can more efficient use of space.

Our branch hospital also has two ICare® tonometers. We are going to purchase more in the future.



Medical staff of the main and branch hospitals.



Medical staff taking IOP using an ICare® tonometer. The easy and quick examinations are appreciated by both them and the patients.



We can now measure intraocular pressure (IOP) without stress, and reduce post-operative surgery time

Q You told me that you use the ICare® tonometer for many of your patients. Could you tell me what patients this instrument is particularly suited to?

Well, I think the ICare® tonometer proves useful particularly for those who have had their cataracts removed and/or undergone vitreous surgery.

Some post-operative patients have puffed eyelids. I previously used applanation tonometers on all patients. However, with that type of tonometer, it took us a long time to examine post-operative patients because their eyelids were puffed up, making it difficult for them to open their eyes enough to measure the intraocular pressure. Therefore, for those patients, the ICare® tonometer only requiring small space is useful.

Moreover, I've always hesitated to use applanation tonometers requiring a larger contact area on eyes which have been damaged due to surgery.

The ICare® tonometer, with its small probe contact area, is also useful for patients with narrow lid apertures, for example blepharoptosis.

Today, we can chat with our patients while taking their IOP with no stress, and greatly reduce post-operative examination time.

When I feel comfortable in using the instrument, this puts the patient at ease during the measurement.

Q I heard that you visit your patient at their homes. Do you take the IOP of bedridden patients?

Yes, I do.

When the ICare® tonometer is face down, the probe comes out from the unit. So, I didn't think that I could measure their IOP with it facing down. However, I managed to take it with some ingenuity.

We have to hold the ICare® with the probe horizontal to the floor and perpendicular to the cornea. When I use this instrument on bedridden patients, we raise the bed a bit using the reclining system, or ask an assistant to support the back of the patient's neck

so that we can take the IOP. Or, when the patient is completely confined to bed, we turn his/her head away for measurement.

When we keep the measurement criteria as just mentioned, it doesn't matter which way we face the ICare® to take a precise reading.

To date, we have not had any problem taking measurements using the above method.

With the ICare® tonometer requiring us very short examination, patients don't need to keep their posture for a long time. Therefore, I don't think that it is disadvantageous that the instrument cannot take measurements face down.

Not a few patients at home are disabled and cannot open their eyes by themselves. For them, we may take more precise measurements with the ICare® tonometer, requiring a small contact area, enabling us to take the IOP quickly, rather than with other methods forcing them to open their eyes needlessly.

Q Are there any problems/difficulties when using the ICare® tonometer ?

Well.. I must say the probe is expensive..

However, the probe makes direct contact with the eyes of patients. They have good reason to be disposable. But, the less expensive they are, the better for us.

I use expensive the ICare® tonometer because it is highly evaluated by both our patients and our staff. Additionally, it provides us with precise data and a wide range of availability. These benefits are more important than the cost.

The probe costs us a lot, but the unit of the ICare® tonometer is relatively affordable. It does not either require an optical bench nor large space.

Q Do you have any other concerns?

We have 5 ICare® tonometers. We verify daily if there is variation in performance between them.

The procedure is, we take the IOP for the same eyes using our five tonometers in order to compare the results. We have found no variation between the values.

I really think this is a highly sophisticated tonometer.

Thank you very much for talking with us today, Dr. Fujioka.

(interviewer: Taichi Nikaido, general manager of the Sapporo branch of M.E.Technica Co., Ltd.)

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