## Digital R/F



High-quality images that make a difference in thorough stomach examinations are a great help to the Center of Gastroenterological Endoscopy Removing unnecessary functions makes this system easy to introduce as a special-purpose device



Department of Gastroenterology Dr. Tadashi Shigematsu

#### his system helps greatly in the treatments provided by the Center of Gastroenterological Endoscopy, such as ERCP and thorough stomach examinations

Our hospital is located in the southern part of Shiga Prefecture. As a core hospital of the region, we are continuously striving to maintain our position as a hospital trusted by the local people. It has also been designated a level-3 emergency medical care hospital, and performs an important role as the region's emergency medical care center. For this reason, we get many gastrointestinal emergencies, and we maintain the capability to perform emergency endoscopies at all times. At the Center of Gastroenterological Endoscopy, we have two R/F systems that we use in accordance with the application, and we utilize the high image quality of FLEXAVISION mainly in examinations and treatment of the upper digestive tract. Specifically, we use it for biliary tree approaches that require thorough examinations and fluoroscopy of the stomach, and for the treatment of kidney stones, jaundice, emergency biliary infections, and tumorous obstructions. Regarding the frequency of examinations, those involving biliary tree approaches, such as ERCP (endoscopic retrograde cholangiopancreatography), are the most common, being performed about twice a day. Other than that, we perform one or two percutaneous endoscopic gastrostomies every week, and replace gastrostomy tubes once or twice a week too.

#### igh-quality images make a difference in thorough stomach examinations Digital processing further supports diagnosis

The images produced by this system are visually pleasing and their quality can be appreciated in images of the gastric mucosa. They really make a difference in thorough examinations. There is almost no halation, and I do not worry so much about losing the subject. We introduced the full digital system and so the imaging parameters can be set to automatic during examinations and then the images can be adjusted later. This means that almost all procedures can be performed without a technologist present. For example, if really sharp images are needed in, say, stomach fluoroscopy, detailed examination of the pancreatic duct, evaluation of the pancreatic duct using a contrast medium, or cancer diagnosis, the contrast and density of images are adjusted after imaging so that they are easy to view. These

may seem like small differences but they equate to a large difference in terms of information. In some cases, it is desirable to print out several copies of the same image with shading applied. Being able to obtain good images is important, and digital



images that can be finely adjusted in accordance with the region of interest are extremely beneficial. It is also convenient to be able to store images after diagnosis and use data in academic conferences and for research.

We recently introduced PACS at the Center of Gastroenterological Endoscopy and so the film that we used to prepare in order to give explanations to patients is no longer necessary. In terms of the cost of producing this kind of film and the space required to store it, everywhere is at breaking point and so digitization is really essential.

## C ompact design provides space for endoscopes and other peripheral devices

The next thing that I became aware of when I started using this system was its compactness. It leaves much more examination space than the previous system. In addition to endoscopes, we use quite a lot of small tools and devices, such as power supply units, guide wire-related tools, sampling tubes, and tools used to insert ileus tubes, and we have now ample space for them.

I think that a system like this that has a fixed-tabletop ensures a high level of patient safety. There is also relatively little risk of hitting surrounding tools and devices when the system is moved.

### he table elevation function reduces the burden on elderly patients and staff

It is better if there is a table elevation function. We treat many elderly patients at our hospital, and lowering the table makes it easy for them to get on and off. Also, patients who are incapable of getting on the table by themselves are usually assisted by two or three members of staff. Lowering the table makes it easier to transfer such patients onto the table, and thereby reduces the burden on the staff. Furthermore, in long examinations and treatment procedures, it is nice to be able to adjust the table to a height that is convenient for the physician.

# S ystem configuration in accordance with the application is possible for hospitals requiring several specialized systems

With this system, it is apparently possible to select the main unit and functions that are required, and configure the system as either a multi-purpose or specialized one. We removed all unnecessary functions

to create a system specifically for the Center of Gastroenterological Endoscopy, and are satisfied with it. With only one multifunctional high-grade device, there may be competition for it and so, in order to be able to handle emergencies, I think that it is necessary for hospitals to establish several systems, with functions divided among them.



A word to doctors thinking of introducing this system: In addition to being compact, this system is equipped with a fixed table, allowing the peripheral devices required for treatment to be easily set up in the same room. This makes it ideal for endoscopy rooms. It is also possible to configure the system to suit specific applications, selecting only the necessary functions from a large range, and so it is easy to introduce it to hospitals requiring several specialized systems.