

HITACHI
Inspire the Next

Multislice CT

ECLOS



What multi-slice CT should be chosen?

When choosing a multi-slice CT, there are many points to consider not only image quality but also easy operation and installation condition, etc.

There should be many aspects to consider to obtain a multi-slice CT that fulfills your requirements exactly.

- Shorter scanning time.
- What is the advantage of replacing with a multi-slice CT?
- High image quality appropriate for diagnosis.
- Easy operation for the first-time users.
- Less burden to patients.
- Applicable for various examinations.
- Upgradability in future.

The system meeting these demands is



Multi-Fit CT **ECLOS**

A multi-slice CT ECLOS designed with the concept of a well-balanced CT which can serve the needs of every user.

ECLOS

- Provides high image quality in both high-pitch scanning and sub-millimeter scanning.
- Provides efficient and proper total workflow.
- Possesses extensibility which widens the application range of CT.
- Has support functions that are kind to people.

ECLOS offers the total workflow that Allows efficient and proper examinations.

The ECLOS has pursued efficient and proper examinations by reviewing the total workflow from setting, scanning to image handling, not to mention a shorter scanning time.



1

Setting

2

Scanning



Preset Switch x 2 and Foot Pedal

ECLOS has two methods for adjusting and registering the height of the patient table to fit each patient's head and body positions. In addition to the present buttons there is also a foot pedal so the operator has both hands free to ensure the patient's safety during the setting.

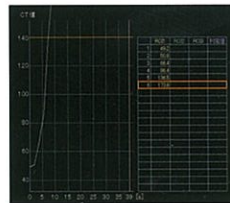


Free-float tabletop

Pushing the touch-switch located on the side of the tabletop allows moving the tabletop freely. This function can be used also in the case that quick positioning is required or for retracting in an emergency case.

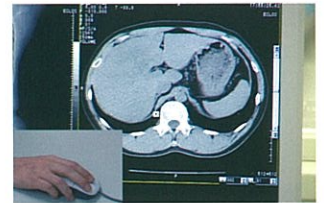
Predict Scan

In the contrast scanning process, the scan can be started when a predetermined CT value is reached. With its highly advanced control system, the monitoring interval can be reduced to 0.2 seconds and the shift to the full-scale scanning process is only 3 seconds. The Predict Scan function enables highly reliable contrast scanning.



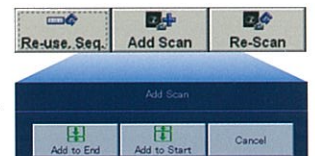
Direct Cine

The Direct Cine display function of ECLOS will not reduce the excellent 0.2-second image creation capability that enables display virtually at the time of imaging. With no need to change the window level, images can be viewed quickly so the transition to the next operation such as additional scanning will go smoothly.



Additional scanning and rescanning

If necessary, just a push of two buttons can enable either additional scanning or rescanning to view the most recently taken images. If it is necessary to retake any unclear image caused by patient movement, the new images can be taken simply by clicking on the unclear images.





The above photo is for illustration purposes only. The actual examination environment may differ.

3

Multi-Fit CT

Image handling

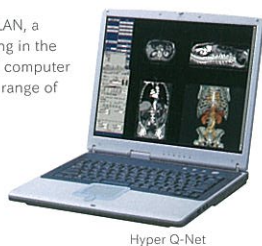
Automatic Image Transfer

Virtually at the time they are taken, images are transferred to the predetermined destination. Output to the imager can be either fully automatic or semi-automatic.



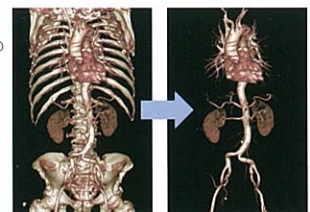
Hyper Q-Net (optional)

By connecting with ECLOS through a high-speed LAN, a personal computer can conduct analysis and filming in the same way as the ECLOS main console. A personal computer can be used as a simplified workstation for a wide range of uses to access various ECLOS functions.



3D Bone Elimination Function

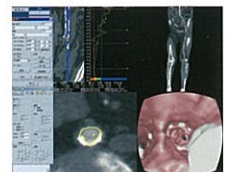
The ECLOS main console has a standard 3D bone elimination function. With Hitachi's unique Region Growing function, for example, ECLOS can separate cerebral blood vessels from the skull base or create 3D images that only show lower limb blood vessels. The 3D Bone Elimination Function is easily used to create 3D images that facilitate diagnosis.



Within one minute

CEV-CPR

Simultaneous blood vessel analysis software, CEV (Cruising Eye View), automatically detects channels of hollow viscera (blood vessels, intestines, bronchia, etc.) in the body to create CPR images (natural-view/straight-view images) along the channels.



Saving images with the image viewer to CD/DVD

ECLOS allows saving images with the image viewer to the external storage media, which enables image observation even in an environment where the image viewer is not installed on the PC.



ECLOS widens the possibility of CT applications with its high extensibility.

The Hyper Q-Net which allows image analysis regardless of the location and a wide variety of applications which expands the scope of CT examination. ECLOS offers a step ahead solutions to the users.



Future customizing program (optional)

ECLOS allows switching of the X-ray tube assembly and the number of slices in accordance with changes in the number of contents of examination.



X-ray tube



Number of slices

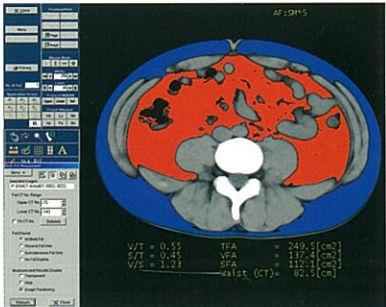
Multi-Fit CT

Applications

ECLOS provides users with ample applications which can add new values to images. ECLOS supports a wide range of examination cases including routine, complete checkup, screening and emergency.

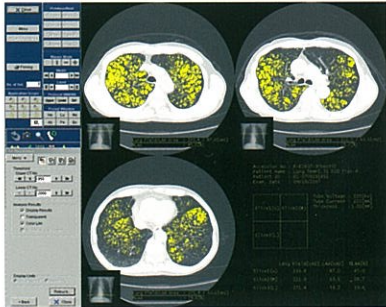
fatPointer (optional)

By selecting CT image of a patient abdomen, images showing abdominal areas with subcutaneous or visceral fat can be obtained and displayed in colors based on the predetermined CT value, along with quantitative data on fat areas and abdominal circumference.



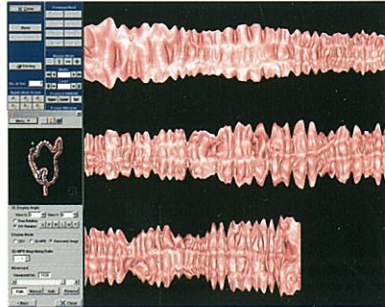
riskPointer (optional)

By selecting CT image of a patient abdomen, images showing pulmonary field and any low attenuation area (LAA) can be obtained and displayed in colors to calculate %LAA (percentage of LAA in the pulmonary field).



CT Colonoscopy (optional)

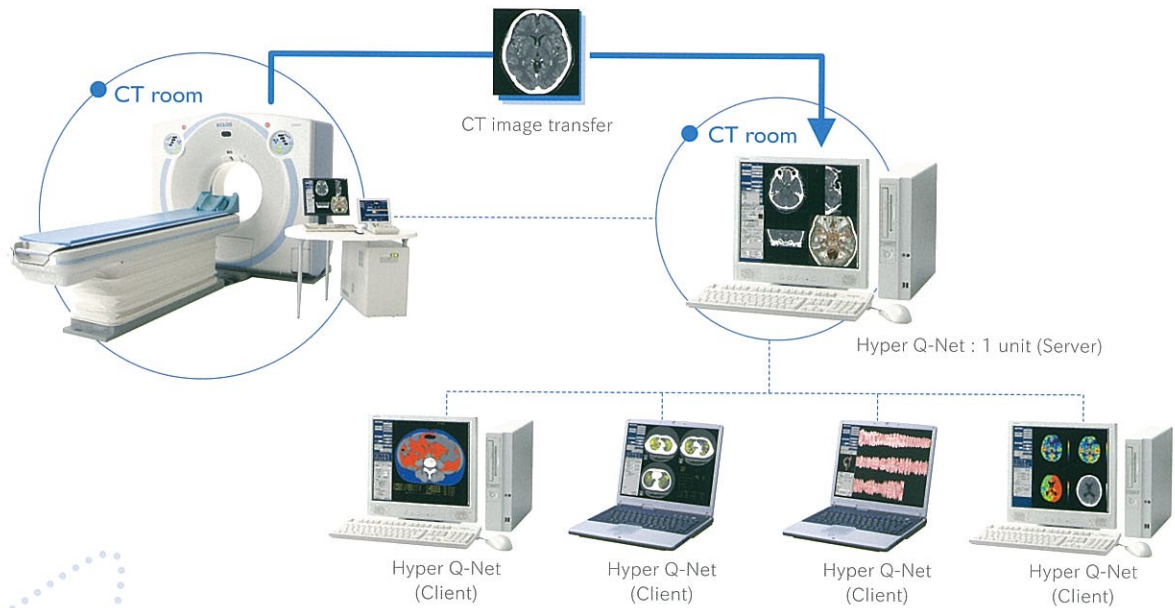
The automatic recognition function of the intestine area allows quick processing from the loading of original images to the path calculation. Three display modes are available; CEV mode, 3D-MPR mode and Panoramic image mode.



Hyper Q-Net for ECLOS (optional)

Hyper Q-Net for ECLOS is 3D analysis software for realizing the same operability and analysis function as those of ECLOS on your PC using the high-speed network.

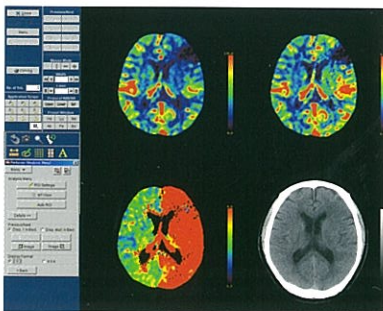
■ An example of the system configuration In-house LAN



* A maximum 4 units (clients) can be connected to the Hyper Q-Net

Perfusion Analysis (optional)

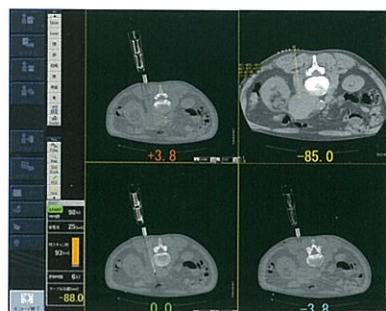
Cerebral blood flow (CBF), cerebral blood volume (CBV) and mean transit time (MTT) are analyzed. Adaptive Filter, Hitachi's unique image noise suppression filter, enables high-precision analysis also for images obtained through low-dose scanning.



An option exclusive for the Hyper Q-Net

guideShot (optional)

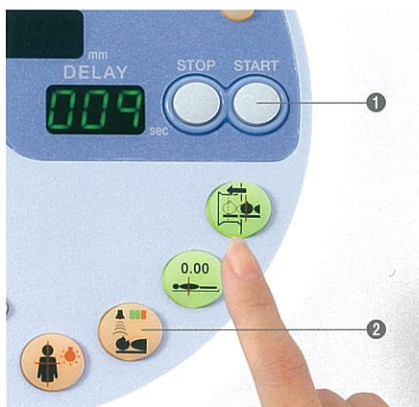
If guideShot is applied, three cross sections of a scanning result can be displayed simultaneously on a screen for easy understanding of the positional relationship of the target organ and the puncture needle. The foot pedal facilitates the operator's arrangement of the patient's bed position during the examination process and the start of imaging.



ECLOS relieves patients' anxiety and burden by patient-friendly functions.

As well as pursuing reduction of the exposure dose, various ideas from all angles have been incorporated to relieve patients' anxiety.

Multi-Fit CT



1 Scan Start/Stop Function and Delay Time Display

Right at the patient's side, the operator can start both the injector and the scanner at the same time and can stop the scanner the moment the need arises. With the countdown display to indicate delay time, the operator can also ensure that contrast media is being injected safely before scanning starts.

2 Demo Breath Function

Patients are allowed to practice breath-holding by pressing the newly added Demo Breath button which flashes green and orange lights informing the patients of when to hold their breath. This function eases patients' anxiety prior to scanning and prevents breath-holding failure by letting the patient practice breathing with the right timing.

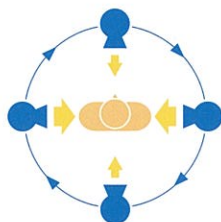


IntelliEC

The IntelliEC is a new X-ray exposure reduction function of the ECLOS consisting of two types of tube current control modes.

Adaptive mA mode

This mode makes scanogram imaging unnecessary to avoid further exposure by varying the tube current continuously while confirming the patient's figure in real time during scanning. Since operation requires only ON/OFF switching and is very easy, the system can be used as in a simplified exposure reduction mode.



Tube current varies at every angle.

Real-time control
(Scanogram is unnecessary)

Tube current is saved by a maximum of 30%.

SD mode

Based on the information on the patient's figure obtained by a scanogram and the predetermined target SD, the tube current is controlled in the 3D directions (X, Y and Z). Regardless of the scan area, images can be outputted at a constant noise level allowing a scan where the image quality and X-ray exposure are traded off.



Visually grasping the variation of a tube current

IntelliEC ON	
CTDIvol	3.0mGy
DLP	23.8mGy.cm
SCDIvol	3.3mGy
Effective mA	10mA

An example display of the IntelliEC X-ray dose





ECLOS

Multislice CT



Hitachi Medical Corporation
Medical System Operations
Group, Kashiwa has established
and maintains a quality
management system according
to ISO 9001, ISO 13485.



Hitachi Medical Corporation,
Medical System Operation
Group, is certified as complying
with the International
Environmental Management
System (ISO 14001).

 **Hitachi Medical Corporation**

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