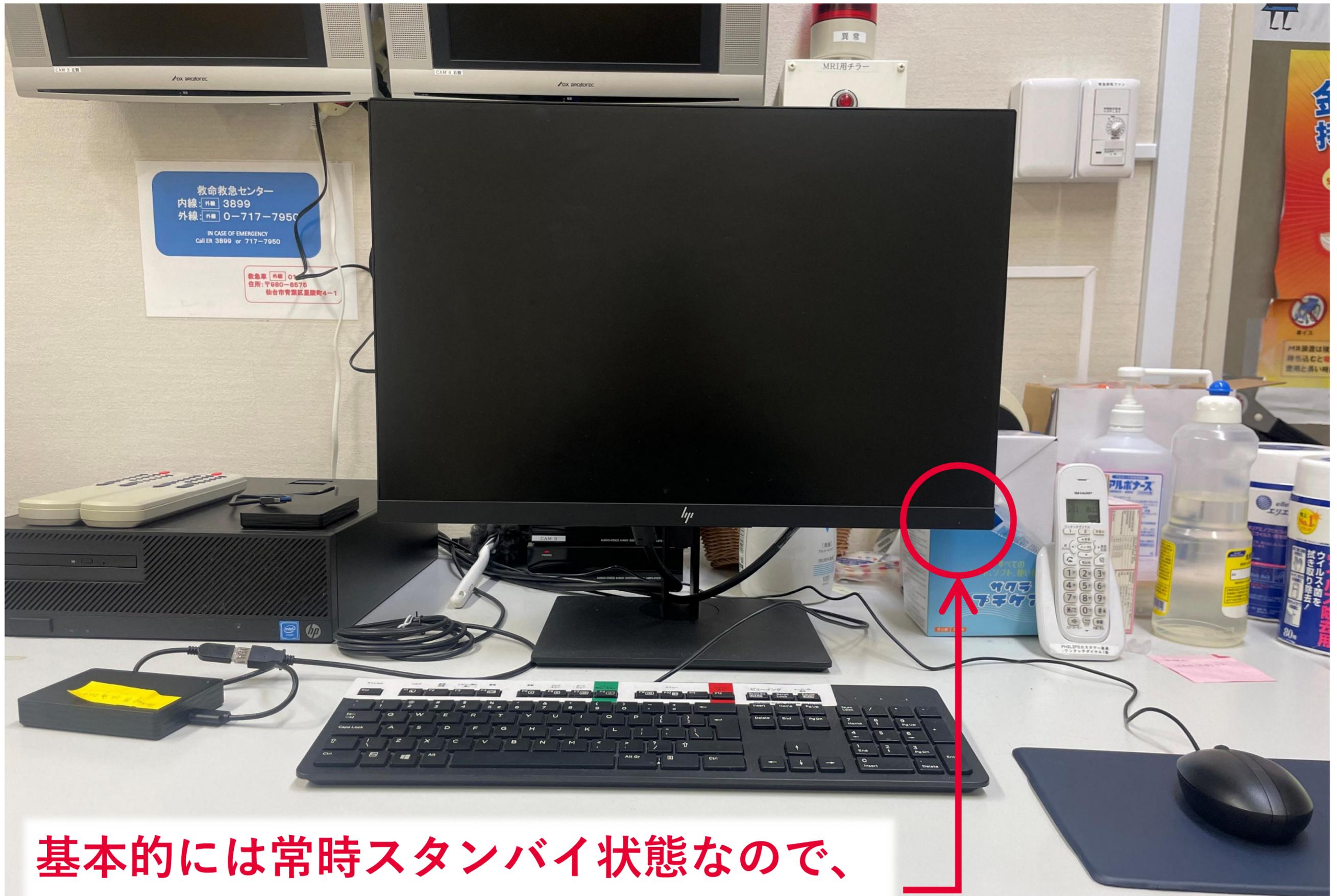


# MRI撮像マニュアル



基本的には常時スタンバイ状態なので、  
モニターONするとログイン画面に

# PHILIPS

## MR Systems Achieva dStream

Achieva dS



www.philips.com

Philips Medical  
Veenpluis 4-6, 5625

一般利用者は  
“mruser”の名前でログイン  
パスワードは不要

Logon

Name

mruser

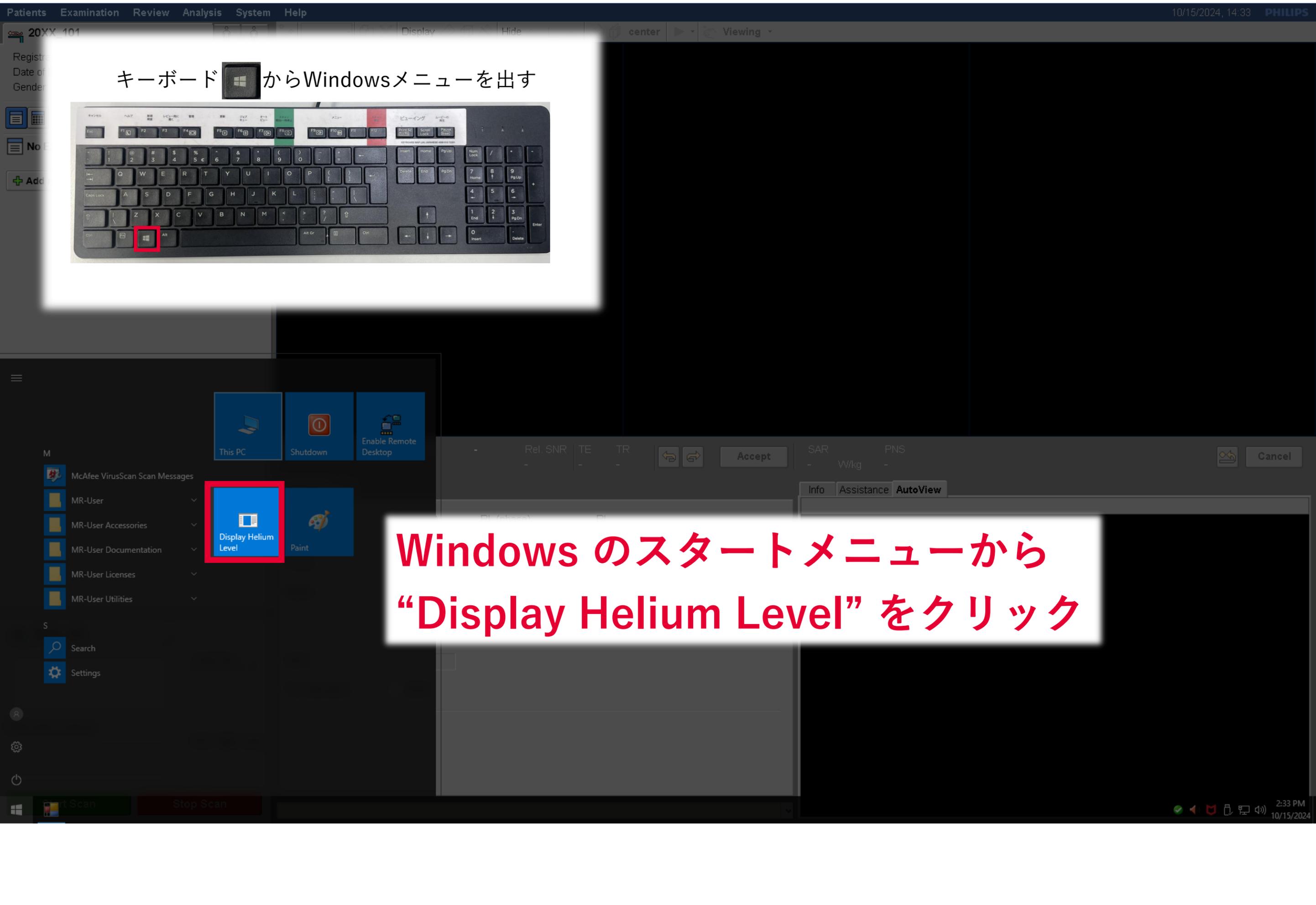
Password

OK

Cancel

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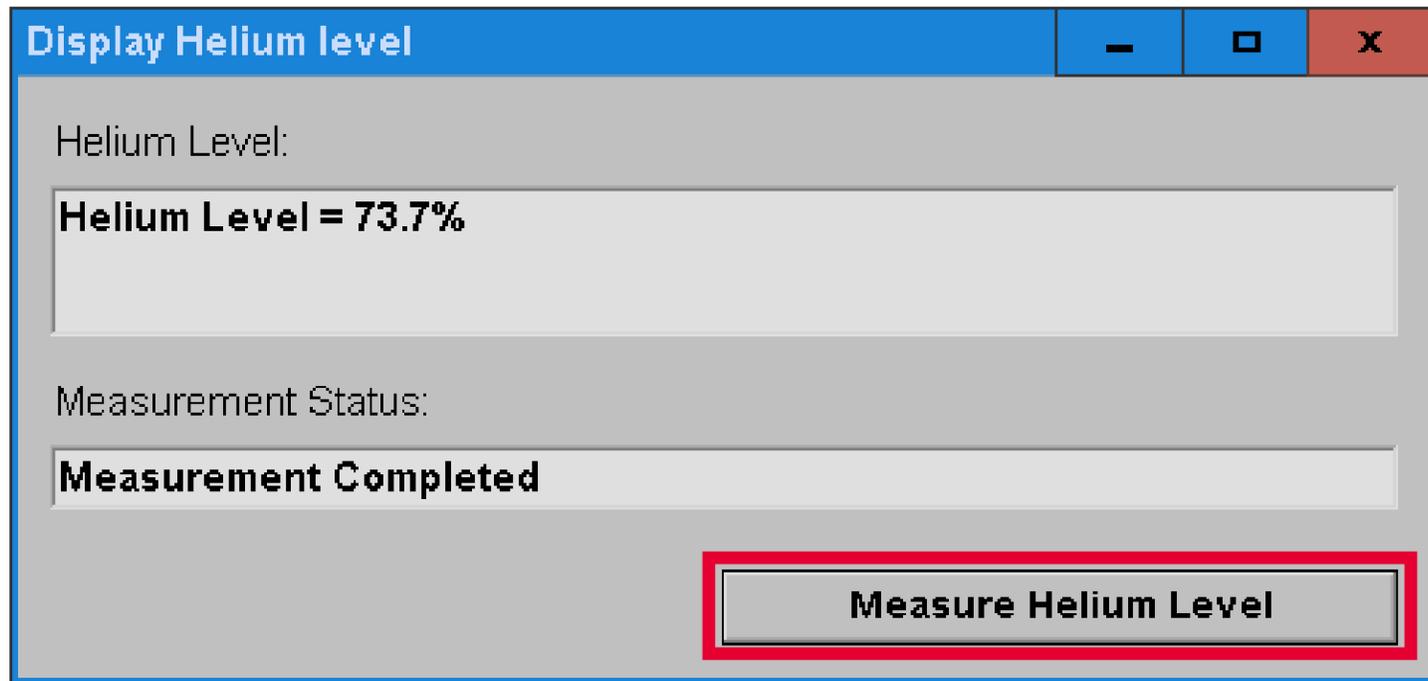


キーボード  からWindowsメニューを出す



**Windows のスタートメニューから  
“Display Helium Level” をクリック**

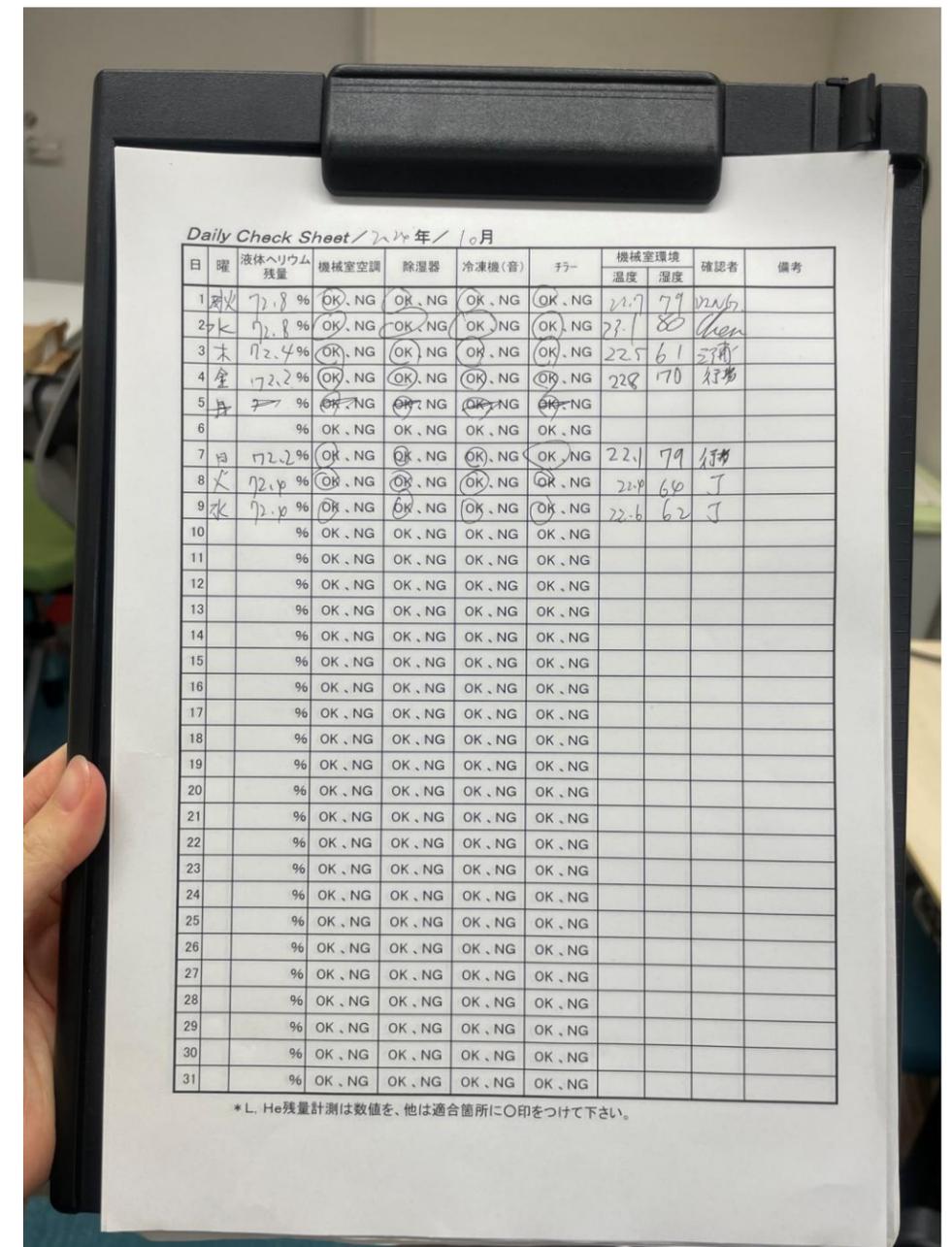




“Measure Helium Level”をクリック

極端に数値が低い場合は  
責任者へ報告して指示を仰ぐ

※操作室内のDaily Check Seatを見て、  
最近の数値を確認してください。



The screenshot displays the Philips MRI software interface. The top menu bar includes 'Patients', 'Examination', 'Review', 'Analysis', 'System', and 'Help'. The patient information panel on the left shows '20XX\_01' with registration ID, date of birth (01/01/1999), and gender (Female). The main area is currently empty, with a message 'No ExamCard selected' and a timer at 00:00:00. A red box highlights the 'ExamCards' window, which is open and shows a list of folders under the 'Hospital' tab. The '20XX' folder is selected. The list includes folders like 'fMRI default parameter', '1.5x1.5x2.0\_28slice\_TR2', 'Natasha\_ht', and 'Toshiki'. At the bottom, a status bar displays the time '14:31' and the message 'ExamCards database has been locked and cannot be modified.'

“Hospital” タブから自分のフォルダを展開

The screenshot displays the Philips medical software interface. At the top, there are menu items: Patients, Examination, Review, Analysis, System, and Help. The top right corner shows the date and time: 10/28/2020, 14:33, and the Philips logo. The main area is divided into several sections. On the left, there is a patient information panel for '20XX\_01' with fields for Registration ID, Date of Birth (01/01/1999), and Gender (Female). Below this is a section for 'EXAMINATION\_39...' dated 10/28/2020, and a status indicator 'No ExamCard selected' with a timer at 00:00:00. A red arrow points from a text box to this area. The central part of the screen is a large dark area, likely for the scan. At the bottom, there is an 'ExamCards' panel with tabs for 'Philips', 'Hospital', and 'Other'. Under 'Philips', there are folders for '20XX' and a card for '20XX', which is circled in red. To the right of the 'ExamCards' panel is an 'Info' panel with tabs for 'Info', 'Assistance', and 'AutoView'. At the bottom left, there are 'Start Scan' and 'Stop Scan' buttons. At the bottom center, a status bar displays the message: '14:31 ExamCards database has been locked and cannot be modified.'

ExamCard をドラッグ&ドロップ  
または緑の+マークをクリック

直前のMRI撮像から 1時間以上あいた場合、  
被験者撮像をする前に 「ファントム」撮像を行います。

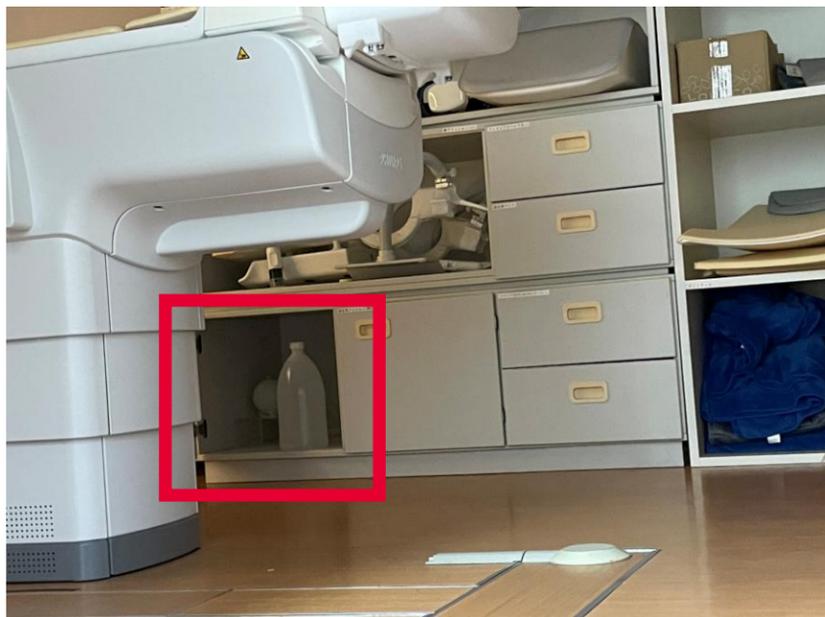
(MRIが問題なく稼働するかを確認するため)

### ■セッティング

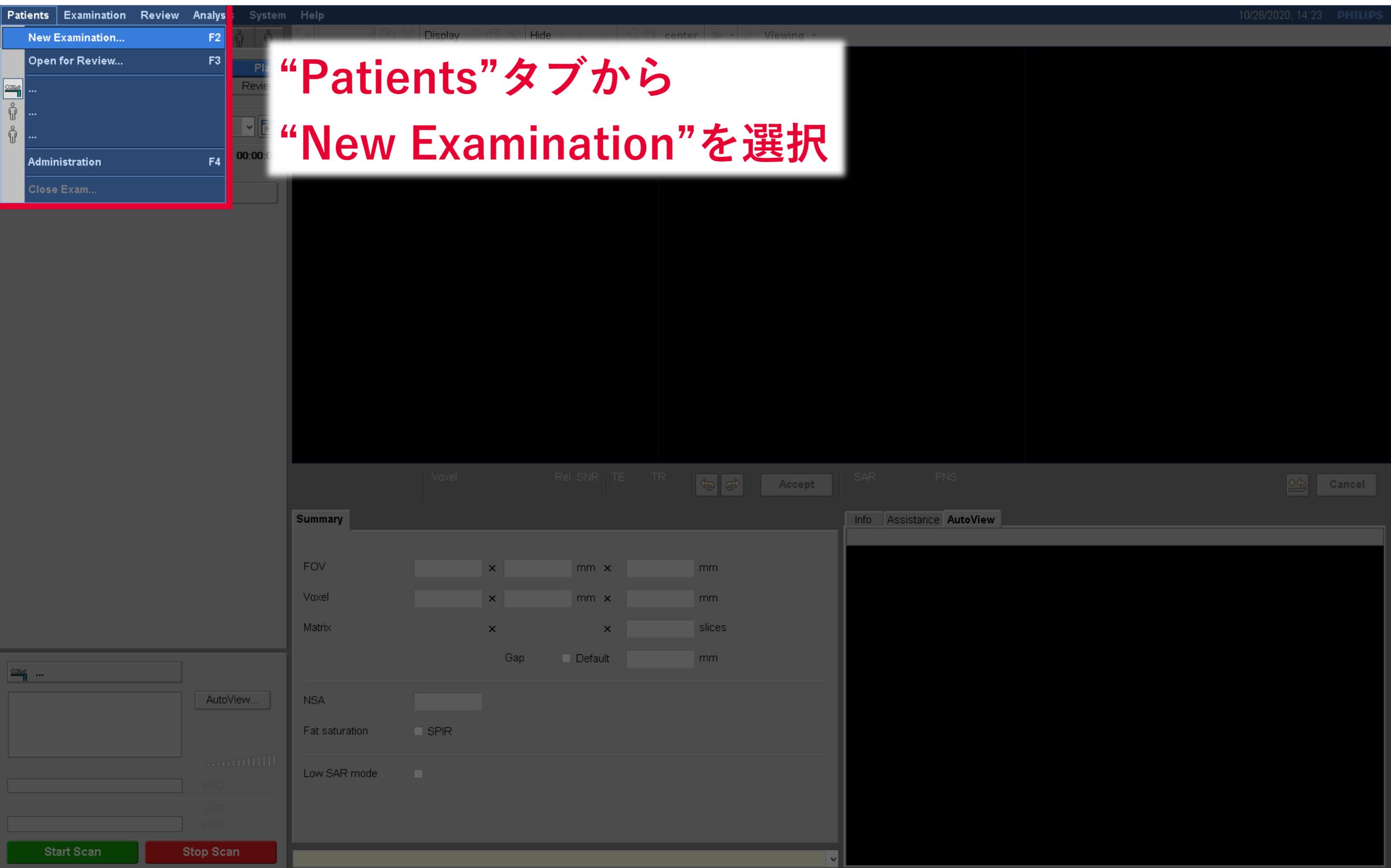


水ボトルを頭部の位置に置き  
コイルもセットします。

通常通り、  
ベッドをMRIの中にいれます。



水ボトルは棚の左下「ファントム」の  
扉の中にあります。



“Patients” タブから  
“New Examination” を選択

New Examination

**Patient**

Patient name:

Registration ID:

Date of birth:  mm/dd/yyyy

Age:

Gender:

Patient weight:  kg

**Patient conditions**

Pregnant:

Implant:

Medical alerts:

Allergies:

**Examination**

Exam name:

Accession number:

Examination date:

Referring Physician:

Allowed SAR mode:

Patient Name	Date Of Bi...	Registration ID	Gender	Exam Name	Exam Date	Origin	Exam Re: ^
2002_11	01/01/2000	2002_11	Male		10/28/2020	LOCAL	
2002_10	01/01/2000	2002_10	Female		10/28/2020	LOCAL	
2002_09	01/01/2000	2002_09	Male		10/28/2020	LOCAL	
20201028phantom	01/30/1990	20201028phantom				LOCAL	
2002_08	01/01/2000	2002_08				LOCAL	

“Phantom”を選択

“Confirm and Proceed”

Surveyと任意の1セッションを撮像

20XX\_01

Registration ID: 20XX\_01  
Date of Birth: 01/01/1999

Plan ▶

- Survey
- fluctuation fMRI
- MPRAGE 1 w/... 3D tra

+ Add new scan item..



Voxel - Rel. SNR - TE - TR - SAR - PNS

Accept Cancel

Summary

FOV [ ] x [ ] mm x [ ] mm

Voxel [ ] x [ ] mm x [ ] mm

Matrix [ ] x [ ] slices

Gap  Default [ ] mm

NSA [ ]

Fat saturation  SPIR

Low SAR mode

Info Assistance AutoView

14:33 ScanProtocol Survey is converted to QuickSurvey

“Start Scan”

Start Scan Stop Scan

Patients Examination Review Analysis System Help 10/28/2020, 14:39 PHILIPS

20XX\_01  
Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender:   
Plan  
Survey  
fluctuation fMRI  
MPRAGE 0.7iso sag  
Add new scan item..

Sc 1, 1 - SI 2/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 5/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 8/9 10/28/2020 T1TFE /M

**黄色いマークをダブルクリック**

ExamCard Properties  
Close  
General Push Nodes  
Patient Position: Supine  
Patient Orientation: Head First  
Laterality: Unpaired  
Anatomy: Head  
Anatomic Region: Brain  
Table Usage: Use  
Heart Rate (beats/min): 60  
Align Overlap (mm): 30  
GeoLink Propagation: No  
Geometries: fMRI  
Disengage posterior coil: No  
RF Excitation Mode: Off

Info Assistance AutoView  
20XX\_01  
Survey  
SI 5  
FFE /M

20XX\_01  
AutoView...  
20XX  
00:17:44  
SED: 0.0 kJ/kg  
SAR  
PNS  
Start Scan Stop Scan

The screenshot shows the Philips MRI software interface. On the left, there is a patient information panel for '20XX\_01' (Female, DOB: 01/01/1999). The main area displays three sagittal views of a phantom. The first two views show a selection box around the phantom, with a yellow circle at the center. The third view shows a circular selection box around the phantom. Below the images, there is a control bar with an 'Accept' button. The bottom of the screen shows a 'Summary' panel with various scan parameters.

**撮像範囲を選択して“Accept”をクリック**

※ファントムのおきも、何もない部分を撮像するとノイズが出るので  
撮像範囲の設定を行う

Patients Examination Review Analysis System Help 10/28/2020, 14:43 PHILIPS

20XX\_01  
Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

EXAMINATION\_39..., 10/28/2020  
20XX  
1,1 ✓ Survey  
fluctuation fMRI  
MPRAGE 0.7iso sag  
Add new scan item..

Sc 1, 1 - SI 2/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 5/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 8/9 10/28/2020 T1TFE /M

fluctuation 12:25 Voxel 3.00 x 3.05 x 3.00 Tra Rel. SNR 1.00 TE 30 TR 2500 SAR < 0.1 W/kg PNS 78% Accept Cancel

Summary >>

	RL (freq.)	RL (phase)	RL
FOV	192	x	mm x mm
Voxel		x	mm x mm
Matrix		x	x 40 slices
Gap		Default	0 mm

NSA 1  
Fat saturation  SPIR

Info Assistance AutoView  
20XX\_01  
Survey  
SI 5  
FFE /M

Start Scan Stop Scan

**“Start Scan”をクリック**

Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

EXAMINATION\_39..., 10/28/2020

20XX

1,1 ✓ Survey  
fluctuation fMRI  
MPRAGE 0.7iso sag

00:06:16

Sc 1, 1 - SI 2/9  
T1TFE /M

Sc 1, 1 - SI 5/9  
T1TFE /M

Sc 1, 1 - SI 8/9  
T1TFE /M

Waiting for start of dynamic study...

OK Cancel

Voxel Sag Rel. SNR TE TR  
0.70 x 0.70 x 0.70 1.00 5.1 11

SAR PNS  
0.0 W/kg 61%

Crast	Motion	Dyn/Ang	Postproc	Offc/Ang	Coils	Conflicts	
no			Total scan duration				05:18.9
no			Rel. SNR				1
no			Act. TR/TE (ms)				11 / 5.1
no			ACQ voxel MPS (mm)				0.70 / 0.70 / 0.70

Info Assistance AutoView

20XX\_01  
fluctuation

fluctuation SAR: 0.1 W/kg  
00:00:57 PNS: 78 %

Start Scan Stop Scan

dB/dt 64.0 T/s  
Sound Pressure Level (dB) 13.6

機能画像の場合は確認画面が表示される

“OK”をクリックすると撮像が始まる

問題がないことがわかれば、途中で“Stop Scan”で中止してOK

The screenshot displays the Philips MRI software interface. The 'Patients' menu is open, showing options: 'New Examination...' (F2), 'Open for Review...' (F3), 'Administration' (F4), and 'Close Exam...'. A red box highlights the 'New Examination...' option. A white text box with red text is overlaid on the screen, stating: "Patients" タブから "New Examination" を選択. The main interface shows a dark area for the scan, with a 'Summary' panel on the left and an 'AutoView' panel on the right. The 'Summary' panel includes fields for FOV, Voxel, Matrix, Gap, NSA, Fat saturation, and Low SAR mode. The 'AutoView' panel is currently empty.

**"Patients" タブから  
"New Examination" を選択**

Summary

FOV [ ] x [ ] mm x [ ] mm

Voxel [ ] x [ ] mm x [ ] mm

Matrix [ ] x [ ] x [ ] slices

Gap  Default [ ] mm

NSA [ ]

Fat saturation  SPIR

Low SAR mode

AutoView

Start Scan Stop Scan

**New Examination**

Patient

Patient name: 20XX\_01

Registration ID: 20XX\_01

Date of birth: 01/01/1999 mm/dd/yyyy

Age: 21 Years

Gender:  Male  Female  Phantom

Patient weight: 50 kg

Patient conditions

Pregnant:  Yes  No  Possibly

Implant:  Yes  No

Medical alerts:

Allergies:

Examination

Exam name:

Accession number:

Examination date:   10/28/2020

Referring Physician:

Performing Physician:

Study Comments:

Allowed SAR mode:

Patient Name	Date Of Bi...	Registration ID	Gender	Exam Name	Exam Date	Origin	Exam Re
					10/28/2020	LOCAL	
					10/28/2020	LOCAL	
					10/28/2020	LOCAL	
					10/28/2020	LOCAL	
					10/27/2020	LOCAL	

Cancel Clear Enter

**被験者情報を入力**

**※Patient name: 承認されたID\_被験者番号**

**(例: 2001\_01)**

Patients Examination Review Analysis System Help 10/28/2020, 14:34 PHILIPS

20XX\_01  
Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

Plan  
Review

EXAMINATION\_39..., 10/28/2020

20XX 00:19:16

Survey  
fluctuation fMRI  
MPRAGE 1 w/... 3D tra

Add new scan item..

Voxel - Rel. SNR - TE - TR - SAR - PNS - Accept Cancel

Summary

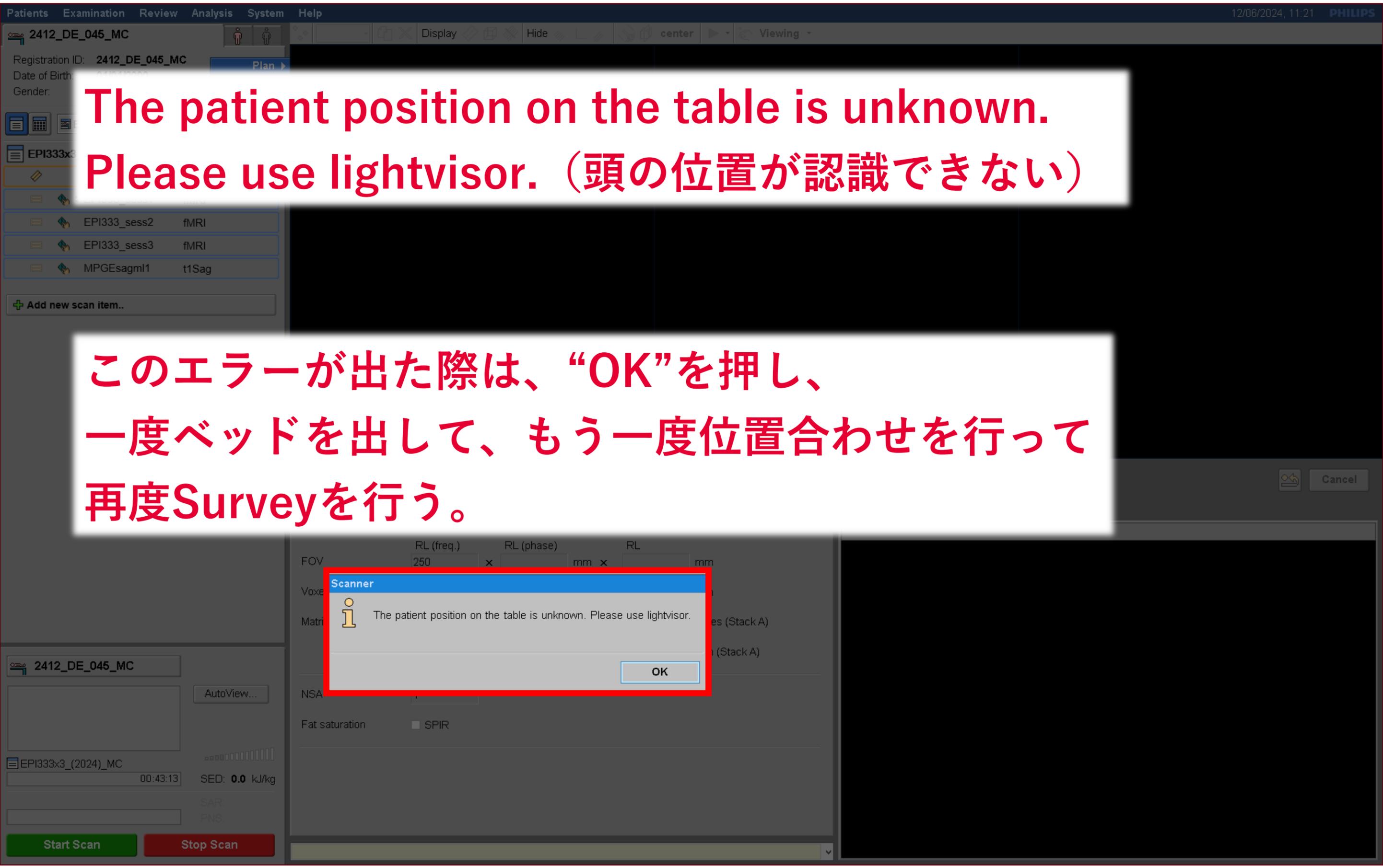
FOV [ ] x [ ] mm x [ ] mm  
Voxel [ ] x [ ] mm x [ ] mm  
Matrix [ ] x [ ] x [ ] slices  
Gap  Default [ ] mm

Info Assistance AutoView

Start Scan Stop Scan

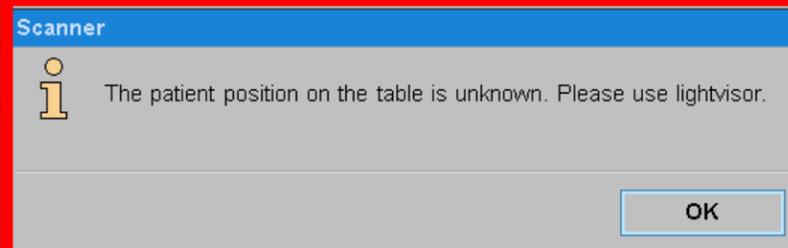
14:33 ScanProtocol Survey is converted to QuickSurvey

**“Start Scan”をクリックすると  
Survey（位置決めのための撮像）が始まる**



The patient position on the table is unknown.  
Please use lightvisor. (頭的位置が認識できない)

このエラーが出た際は、“OK”を押し、  
一度ベッドを出して、もう一度位置合わせを行って  
再度Surveyを行う。



Scanner  
The patient position on the table is unknown. Please use lightvisor.  
OK

黄色いマークをダブルクリック

The screenshot displays the Philips MRI software interface. At the top, the menu bar includes Patients, Examination, Review, Analysis, System, and Help. The patient information section shows Registration ID: 20XX\_01, Date of Birth: 01/01/1999, and Gender. The scan plan on the left lists 'Survey' (highlighted with a red circle), 'fluctuation fMRI', and 'MPRAGE 0.7iso sag'. The main display area shows three axial brain slices. The first slice is labeled 'Sc 1, 1 - SI 2/9 T1TFE /M' and the second 'Sc 1, 1 - SI 5/9 T1TFE /M'. The third slice is labeled 'Sc 1, 1 - SI 8/9 T1TFE /M'. Below the slices is the 'ExamCard Properties' window, which includes a 'Close' button and a table of scan parameters.

General	
Patient Position	Supine
Patient Orientation	Head First
Laterality:	Unpaired
Anatomy:	Head
Anatomic Region:	Brain
Table Usage	Use
Heart Rate (beats/min)	60
Align Overlap (mm)	30
GeoLink Propagation	No
Geometries	fMRI
Disengage posterior coil	No
RF Excitation Mode	Off

At the bottom left, there is a 'Start Scan' button and a 'Stop Scan' button. The bottom right shows an 'AutoView' window displaying a single axial slice.

Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

EXAMINATION\_39..., 10/28/2020

20XX

1,1 ✓ Survey

- fluctuation fMRI
- MPRAGE 0.7iso sag

Sc 1, 1 - SI 2/9 T1TFE /M 10/28/2020

Sc 1, 1 - SI 5/9 T1TFE /M 10/28/2020

Sc 1, 1 - SI 8/9 T1TFE /M 10/28/2020

fluctuation 12:25 Voxel 3.00 x 3.05 x 3.00 Tra Rel. SNR 1.00 TE 30 TR 2500 SAR < 0.1 W/kg PNS 78%

Accept Cancel

Summary >>

	RL (freq.)	RL (phase)	RL
FOV	192		mm x mm
Voxel			
Matrix			
Gap		<input type="checkbox"/> Default	0 mm
NSA			1
Fat saturation			<input checked="" type="checkbox"/> SPIR

Info Assistance AutoView

20XX\_01

Survey SI 5

撮像範囲を選択して“Accept”をクリック

Start Scan Stop Scan

Patients Examination Review Analysis System Help 10/28/2020, 14:43 PHILIPS

20XX\_01  
Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

EXAMINATION\_39..., 10/28/2020  
20XX  
1,1 ✓ Survey  
fluctuation fMRI  
MPRAGE 0.7iso sag

Sc 1, 1 - SI 2/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 5/9 10/28/2020 T1TFE /M  
Sc 1, 1 - SI 8/9 10/28/2020 T1TFE /M

fluctuation 12:25 Voxel 3.00 x 3.05 x 3.00 Tra Rel. SNR 1.00 TE 30 TR 2500 SAR < 0.1 W/kg PNS 78%

Summary	RL (freq.)	RL (phase)	RL
FOV	192	x	mm x mm
Voxel		x	mm x mm
Matrix		x	x 40 slices
Gap		Default	0 mm
NSA	1		

Info Assistance AutoView  
20XX\_01  
Survey  
SI 5  
FFE /M

Start Scan Stop Scan

“Start Scan”をクリック

The screenshot shows the Philips MRI console interface. A dialog box titled "Scanner" is displayed in the foreground, containing a question mark icon and the text "Waiting for start of dynamic study...". Below the text are "OK" and "Cancel" buttons. The background shows three MRI scan views (Sagittal, Coronal, and Axial) and a technical specifications table.

Parameter	Value
Voxel	0.70 x 0.70 x 0.70
Rel. SNR	1.00
TE	5.1
TR	11
SAR	0.0 W/kg
PNS	61%
Total scan duration	05:18.9
Rel. SNR	1
Act. TR/TE (ms)	11 / 5.1
ACQ voxel MPS (mm)	0.70 / 0.70 / 0.70
REC voxel MPS (mm)	0.67 / 0.67 / 0.70
Whole Body SAR / level	0.0 W/kg / normal
SED	0.0 kJ/kg
Max B1+rms	0.67 uT
PNS / level	61% / normal
dB/dt	64.0 T/s
Sound Pressure Level (dB)	13.6

機能画像の場合は確認画面が表示される  
“OK”をクリックすると撮像が始まる

Registration ID: 20XX\_01  
Date of Birth: 01/01/1999  
Gender: Female

EXAMINATION\_39..., 10/28/2020

ExamCard	Scan Item	Status
1,1	Survey	✓
2,1	fluctuation fMRI	✓
3,1	MPRAGE 0.7iso sag	✓

MPRAGE 0.7iso

Parameter	Value
Voxel	0.70 x 0.70 x 0.70
Rel. SNR	1.00
TE	5.1
TR	11
SAR	0.0 W/kg
PNS	61%

Summary	Geometry	Contrast	Motion	Dyn/Ang	Postproc	Offc/Ang	Coils	Conflicts	Info
Angio / Contrast enh.	no	no	no	no	Total scan duration				20XX_01
Quantitative flow	no	no	no	no	Rel. SNR				MPRAGE 0.7iso
CENTRA	no	no	no	no	Act. TR/TE (ms)				SI 128
Manual start	no	no	no	no	ACQ voxel MPS (mm)				FFE /M
Dynamic study	no	no	no	no	REC voxel MPS (mm)				
Arterial Spin labeling	no	no	no	no	Scan percentage (%)				
					Act. slice gap (mm)				
					TFE shots				
					TFE dur. shot / acq (ms)				
					Min. TI delay				
					Act. WFS (pix) / BW (Hz)				
					Min. WFS (pix) / Max. BW (...)				
					Head SAR				
					Whole body SAR / level				
					SED				
					Max B1+rms				
					PNS / level				
					dB/dt				
					Sound Pressure Level (dB)				

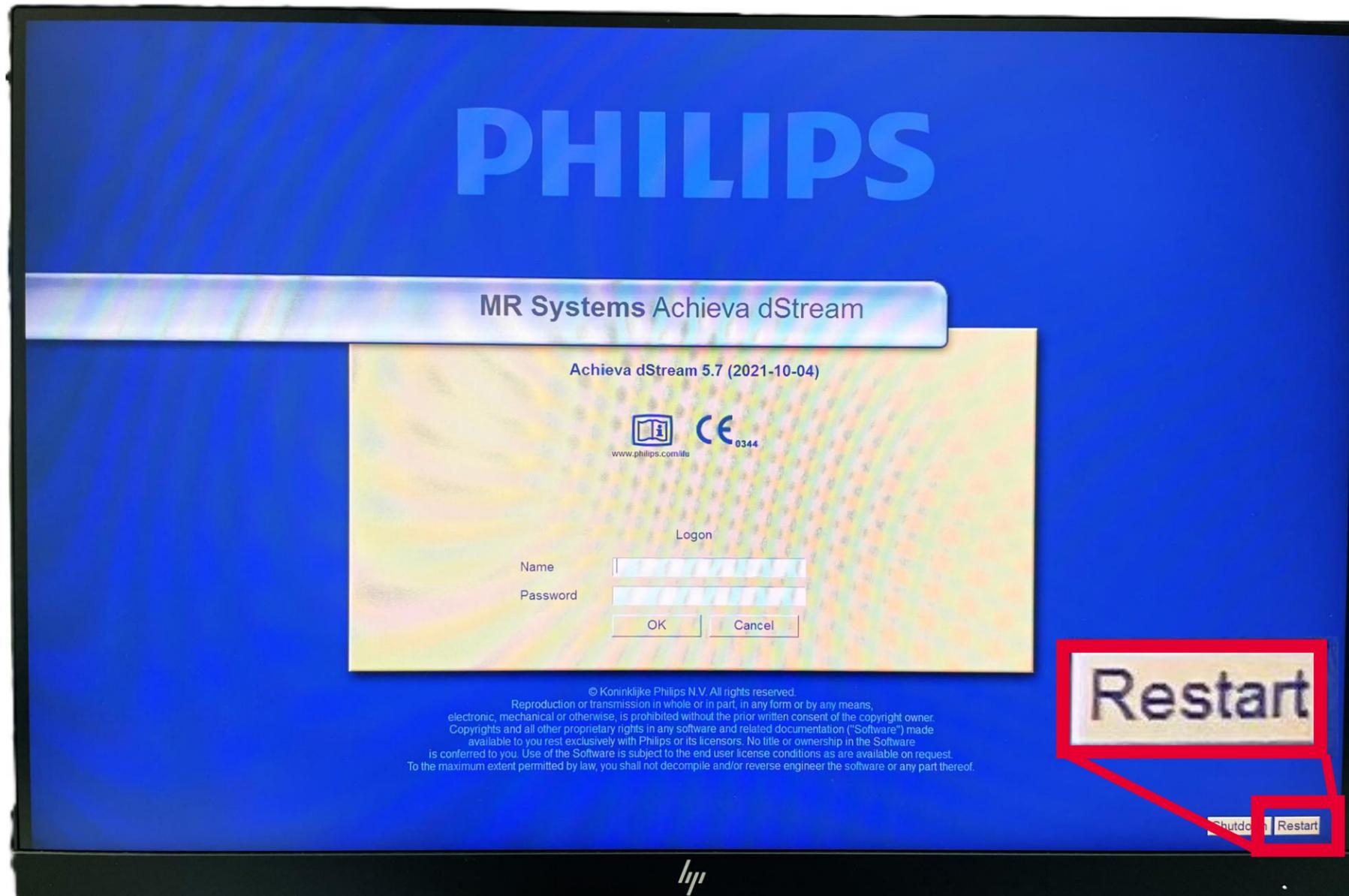
Start Scan Stop Scan

撮像が終わるとExamCardが青色に変わる

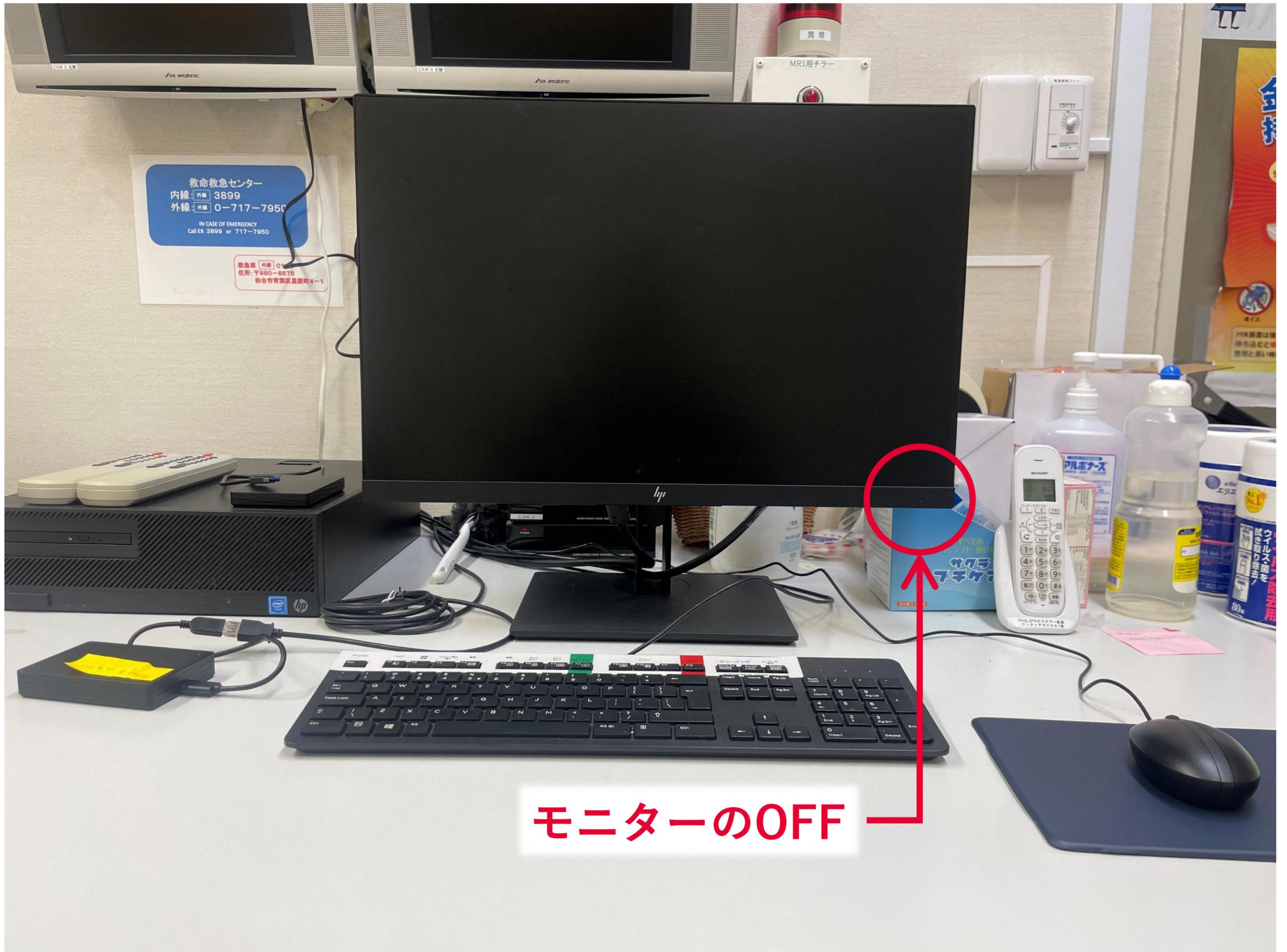
The screenshot shows the Philips MRI software interface. The 'System' menu is open, and the 'Exit' option is highlighted with a red box. A white text box with red text is overlaid on the center of the screen, reading: “System” タブから “Exit” を選択. The interface includes patient information, examination details, a table of scan parameters, and a patient silhouette.

Summary	Geometry	Contrast	Motion	Dyn/Ang	Postproc	Offc/Ang	Coils	Conflicts	<<
Angio / Contrast enh.	no				Total scan duration				05:18.9
Quantitative flow	no				Rel. SNR				1
CENTRA	no				Act. TR/TE (ms)				11 / 5.1
Manual start	no				ACQ voxel MPS (mm)				0.70 / 0.70 / 0.70
Dynamic study	no				REC voxel MPS (mm)				0.67 / 0.67 / 0.70
Arterial Spin labeling	no				Scan percentage (%)				100
					Act. slice gap (mm)				0
					TFE shots				144
					TFE dur. shot / acq (ms)				2096.5 / 2036.1
					Min. TI delay				1068
					Act. WFS (pix) / BW (Hz)				3.261 / 133.2
					Min. WFS (pix) / Max. BW (...)				0.806 / 539.1
					Head SAR				< 8%
					Whole body SAR / level				0.0 W/kg / normal
					SED				0.0 kJ/kg
					Max B1+rms				0.67 uT
					PNS / level				61% / normal
					dB/dt				64.0 T/s
					Sound Pressure Level (dB)				13.6

1日に1回を目安に行うとよいので、  
その日の最後の実験者は再起動してください



- ・ アプリ起動中（ログイン中）に、Windowsメニューからの再起動は極力行わない
- ・ 夜間3:00にPhilips社から保守点検のためのモニタリングが入るので、夜間Shutdownはしない



モニターのOFF