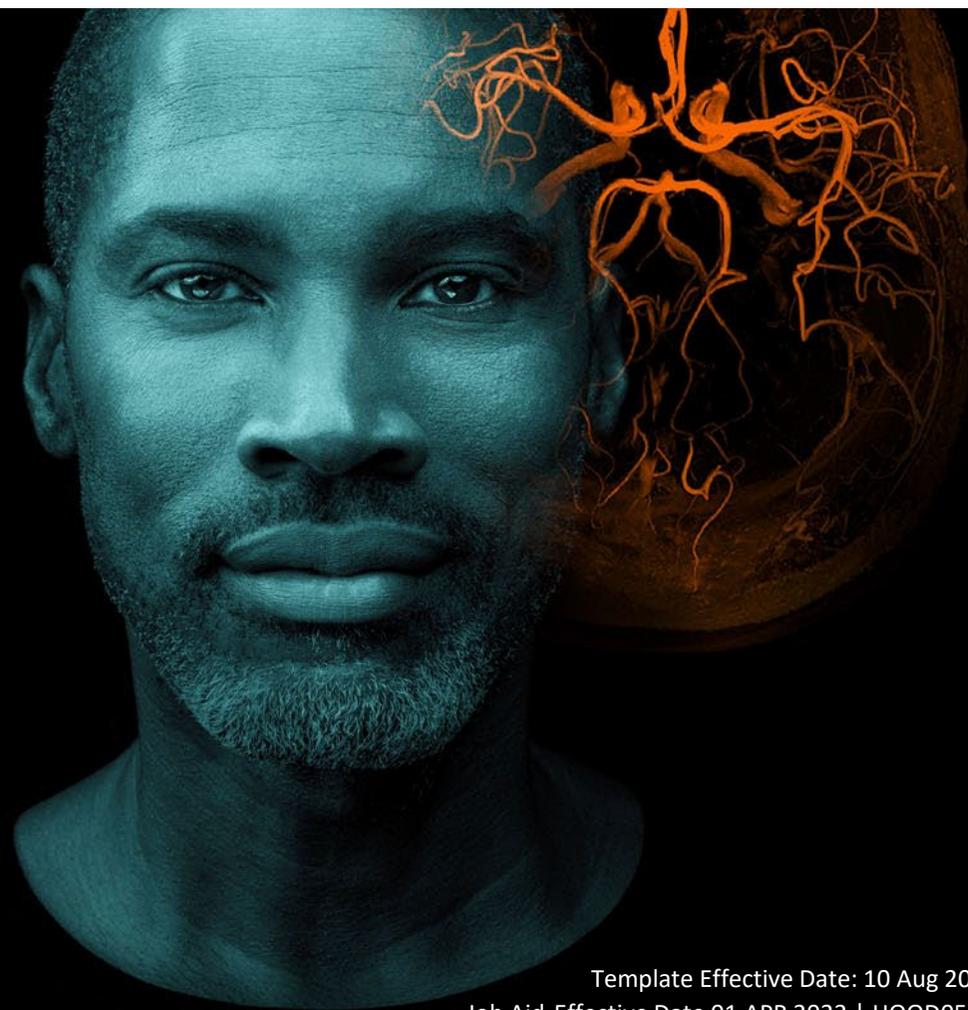
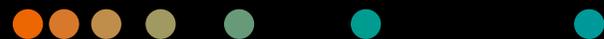


# HeartSweep Job Aid

ARTIS one VA1x



# HeartSweep

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# HeartSweep Introduction

**HeartSweep** can be used to visualize the coronary arteries in different views by one acquisition run using a single contrast injection.

**HeartSweep** is a rotational angiography acquisition mode that involves a pre-set rotation of the C-arm around the patient.

The system moves the C-arm along a path containing multiple positions and images are acquired with a CARD acquisition mode.



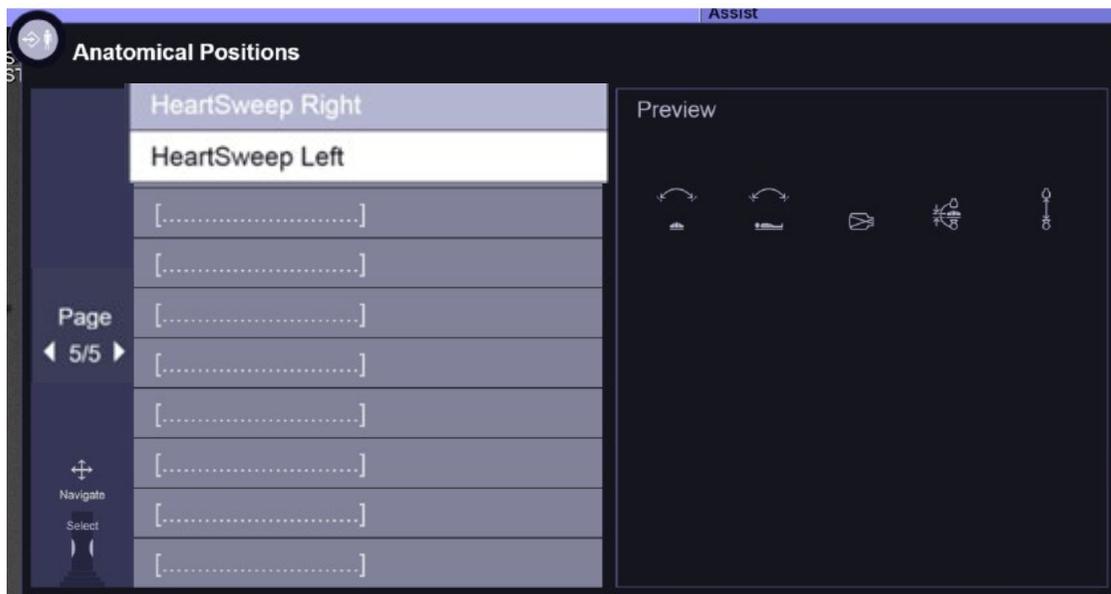
# HeartSweep

## Preparation: Positioning for HeartSweep

### Trajectory

The **HeartSweep** acquisition path is defined by a trajectory with up to 15 points that can be defined by Siemens Healthineers Service.

The trajectory must start at an **Anatomical Position**.



### Isocenter

With rotational angiography, the volume to be imaged should always be positioned in the isocenter of the C-arm. Otherwise, it may move out of the image area in some projections.

The **isocenter assistant** helps you to position the region of interest in the isocenter.



#### Please note:

If you have already positioned your patient, press the **Isocenter** key in order to skip the isocenter assistant messages.

# HeartSweep

## Preparation: Positioning for HeartSweep

### Collisions

The effect of a collision depends on the state of the rotational angiography examination in which the collision occurs.

If a collision occurs:

- Before the first run is started, the system returns to the test phase and does not deselect the acquisition
- While there is no rotational movement, the system displays a message and does not deselect the acquisition, for example, during the acquisition in the injection phase or during the X-ray delay from the injector
- During the movement (collision sensor), then the movement stops.
  - The acquisition and the injection are stopped
  - The acquisition program is deselected by it
  - The acquisition cannot be continued

### Patient Movements

If the patient moves during a rotational angiography acquisition, there is a risk of collision, and the acquired scenes may not be suitable for the intended purpose.

Instruct the patient **not** to move or immobilize the patient if necessary.

Pay attention to patient movements during a rotational angiography acquisition and stop the acquisition/movement if necessary.



# HeartSweep

## Preparation: Positioning for HeartSweep

### Exposure Release

In principle, the handswitch or footswitch can be used for exposure release. However, to facilitate the examination sequence we recommend using the footswitch.



### System Position

**HeartSweep** can only be carried out in the **Head Side** system position.



# HeartSweep

## Preparation: Preparing Contrast Injection

### Injection Mode

The injection occurs just before the start of the fill run. The contrast medium can either be applied with the help of an automatic injector or manually.

In general, injection with the injector produces better results as the flow of the contrast medium can be kept constant over the total duration of the injection.

If the injector is set to **Armed**, an injection will be triggered.

- It is recommended to set a delay time (X-ray delay) of 0.5 to 1 s on the injector. With it, an optimum contrast medium filling is already achieved with the first projection.
- The X-ray delay that is programmed at the injector is used to delay the beginning of the injection phase. During this delay time, there is no image acquisition.

If the injector is **not** set to **Armed**:

- The system assumes that a manual injection is performed with no contrast medium applied and starts the injection phase immediately.
- For manual injection, it is recommended to set an X-ray delay of 0 s.

### Please note:

The message **Injector disabled, manual injection** indicates that the injector has not been set to **Armed**, and a manual injection must be performed.

# HeartSweep

## Workflow: Performing a HeartSweep Acquisition (1/2)

1. Prepare the patient, stand, C-arm and table.  
Check the injector, if used.
2. Select a **HeartSweep** acquisition program.

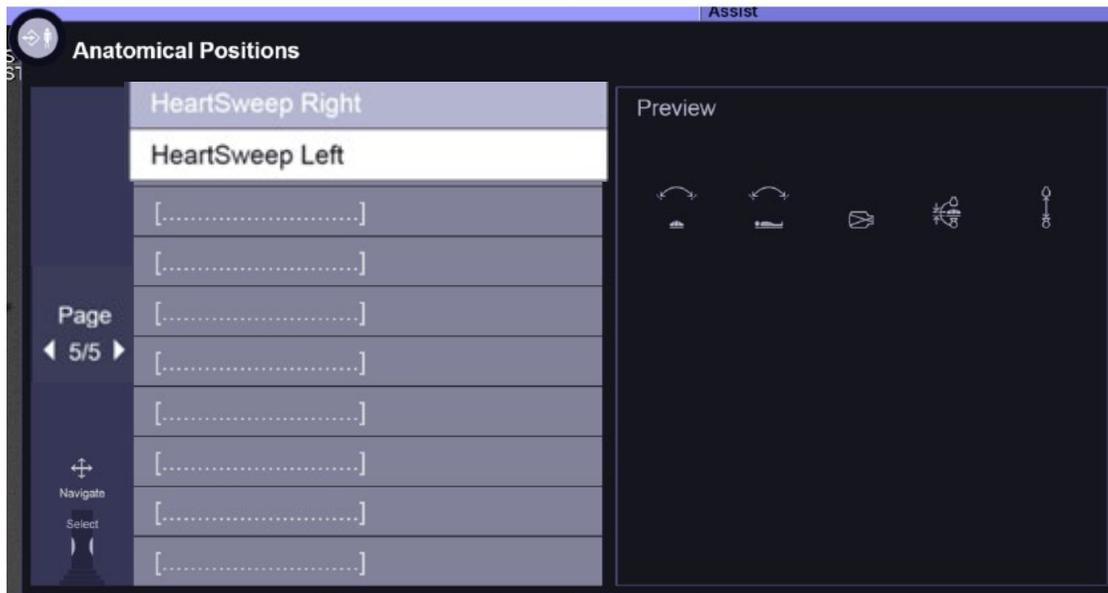
3. Position the heart in the isocenter.



If the LED on the **Isocenter** key is lit, you can start immediately.



If the LED on the **Isocenter** key is flashing, follow the isocenter assistant.



# HeartSweep

## Workflow: Performing a HeartSweep Acquisition (2/2)

4. The message **HeartSweep Start Position: Activate stand movement** is displayed. To move the C-arm to the start position, press the stand/C-arm joystick down and deflect it away from you until the C-arm position has been reached.



Deflecting the joystick

Depending on the type of injection, one of the following messages is shown:

- **HeartSweep Test Phase: Auto, Activate stand movement** with automatic control
- **HeartSweep Test Phase: Manual, Activate stand movement** with manual control

5. Perform the **HeartSweep** test run to make sure that no collision will occur. Press the stand/C-arm joystick down and deflect it away from you until the C-arm position has been reached.
- Or –
- Press the hands-free foot pedal.
- The message **Test Phase: Start Fluoro to complete Test Phase** is displayed.

**Please note:** The test phase can be interrupted at any time by releasing the stand joystick or hands-free foot pedal.

- If you deflect the joystick or press the foot pedal again within 20 s, the system will proceed with the test run
- After more than 20 s, the test phase must be repeated

# HeartSweep

## Workflow: Performing a HeartSweep Acquisition continued

6. Perform a brief fluoroscopy for automatic setting of acquisition parameters.



Press the fluoro pedal of the footswitch.

**Ready for HeartSweep: #s Acquisition Time** is displayed.

7. Automatic or manual injection, if contrast medium is used.



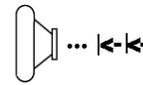
Start injector, if manual injection is used.

8. Press the exposure release button or pedal and keep it pressed until the end of the acquisition.



If **Auto** is programmed:

To start acquisition, press the exposure release button or pedal and keep it pressed. Rotational run will start automatically. Injection will also be performed automatically if the injector is set to **Armed**.



If **Manual** is programmed:

Start acquisition, then start rotational run-in time. Press the multifunctional button of the handswitch.

9. When the rotational run is complete, stop the exposure release.

(Acquisition is stopped automatically.)

**HeartSweep: Completed** is displayed.

10. View the rotational series.

**Playback:** The acquisition series can be played back directly after the acquisition according to the settings in the acquisition program.

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Siemens Healthineers Headquarters  
Siemens Healthcare GmbH  
Henkestr. 127  
91052 Erlangen, Germany  
Telephone: +49 9131 84-0  
siemens-healthineers.com