



Shift

The Shift tool can be used to shift data horizontally or vertically. This may be necessary to correct wraparound artifacts. Available options are as follows:

Shift: Allows users to enter the number of voxels to shift data in the X, Y, or Z:

- **X:** Entering a number will apply a positive x shift (shift to the left). Entering a negative number will apply a negative x shift (shift to the right).
- **Y:** Entering a number will apply a positive y shift (shift forward). Entering a negative number will apply a negative y shift (shift backward).
- **Z:** Entering a number will apply a positive z shift (shift up). Entering a negative number will apply a negative y shift (shift down).
- **Wrap:** Allows users to specify if shifted voxels will wrap around when shifting.

Shift Volume: Applies the specified shift.

Shear: The Shear option allows users to apply horizontal and vertical shear correction in the Axial, Coronal, or Sagittal orientation. Note that Analyze automatically identifies and corrects for shear when loading data (see Shear Factor Correction in the Input/Output section of this manual).

- **Orient:** Choose from Axial, Coronal, or Sagittal.
- **Horizontal:** Allows users to specify the horizontal correction value for the selected orientation.
- **Vertical:** Allows users to specify the vertical correction value for the selected orientation.

Shear Volume: Applies the specified shear correction parameters.

Using the Shift Tool

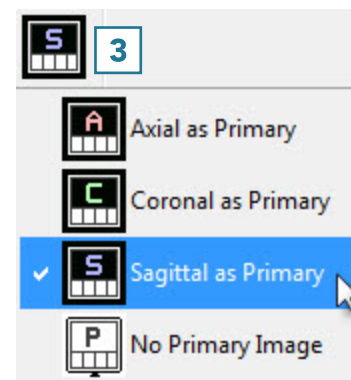
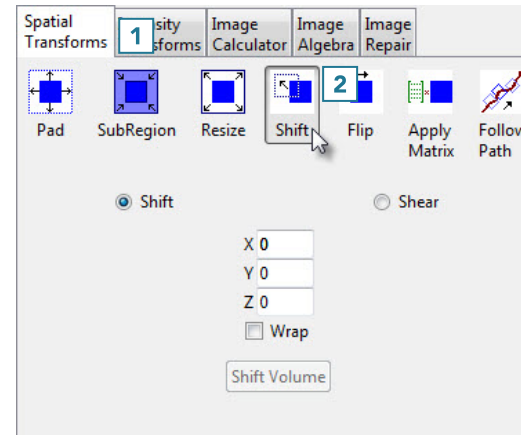
Correcting Wraparound Using the Shift Tool

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To follow along, download the data set MRI_Head.avw from analyzedirect.com/data and load into Analyze using Input/Output.

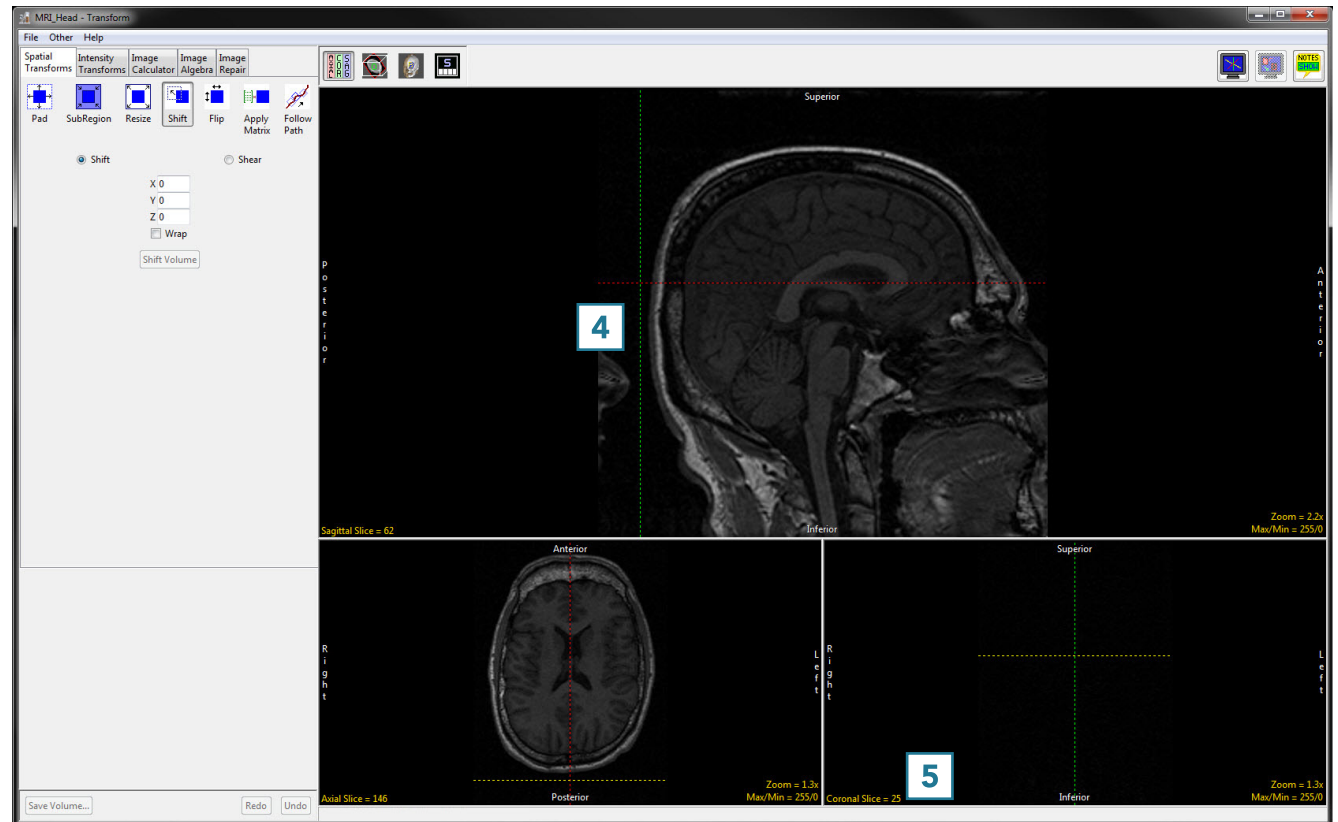
- Select the data set to shift and open Transform. Navigate to Spatial Transforms [1] and select the Shift tool [2].
- This data set has a wraparound artifact which is visible in the sagittal view.
- Set sagittal as the primary view by double-clicking on the sagittal image or using the primary view menu [3].



Using the Shift Tool (continued)

- Use the linked cursor to determine the shift parameter value [4].
- In this data set, when the cursor is lined up with an appropriate break point in the sagittal view, the corresponding coronal slice number is 25 [5].

Refer to the table below to determine the correct sign and direction of the desired shift.

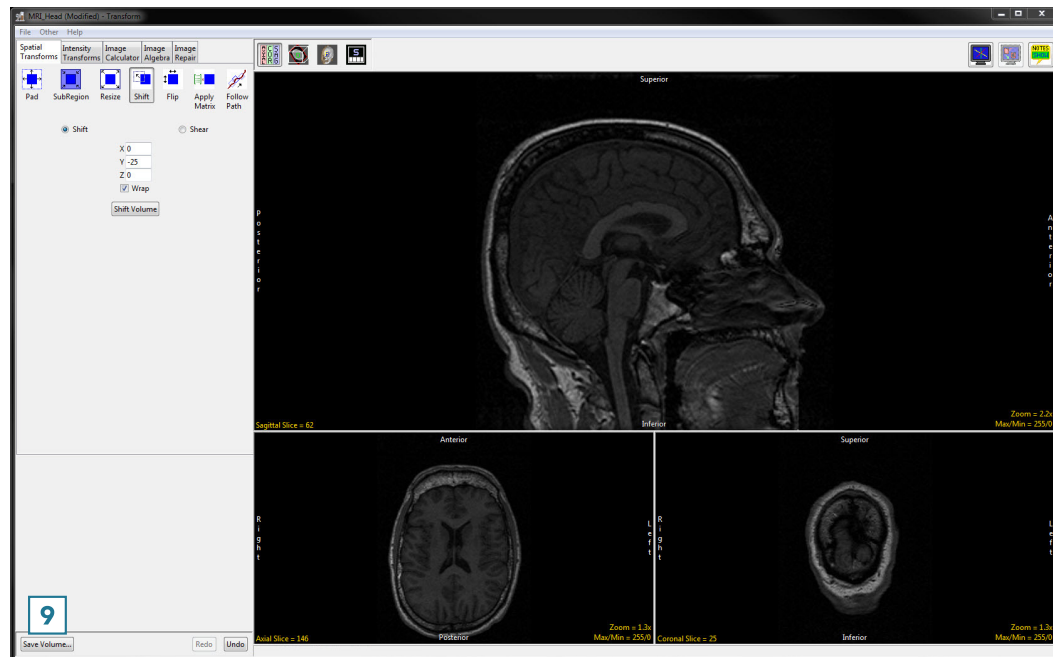
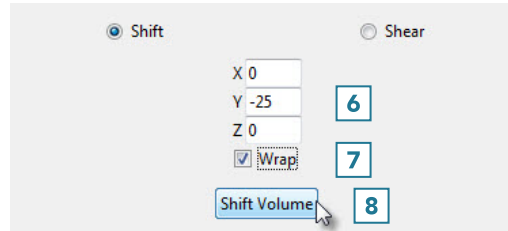


Shift Parameters

Parameter	Axial		Coronal		Sagittal	
	+	-	+	-	+	-
X	right	left	right	left		
Y	up	down			right	left
Z			up	down	up	down

Using the Shift Tool (continued)

- Since we want to shift the sagittal image to the left, we will use a Y parameter of -25.
- Type this parameter value into the input box [6].
- Select the Wrap checkbox [7].
- Click Shift Volume to complete the shift [8].
- The data set will shift to the left by 25 slices and wrap those slices back around to connect with the rest of the head.
- Click Save Volume to save the shifted data set [9].



- In the Save Transformed window, choose to create a new workspace volume [10].
- Rename [11] and click Save Volume [12].
- Close Transform.

