



## Data Collection Worksheet

**Please Note:** The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

### Description of Quantification of Left Ventricular Global Longitudinal Strain by Speckle Tracking Echocardiography

The European Association of Cardiovascular Imaging (EACVI)/American Society of Echocardiography (ASE)/Industry Task Force guidelines for standardizing strain imaging consists of standard definitions, names, abbreviations, formulas, and procedures for calculating physical quantities derived from speckle tracking echocardiography. The guidance provides technical information only, including definitions of the standard quantities that software should report. Task force recommendations are provided alongside each parameter. The guidance provides geometry definitions and strain parameters. Region of interest, segment definitions and views, and segmentation models are covered. An overview of 2D speckle tracking parameters used for strain measurement including velocity, displacement, strain and strain rate, and rotational mechanics is included. Special considerations for strain and strain rate calculations, such as clinically relevant points along strain curves, is provided. Guidance for the calculation of global strain or strain rate is included.

The Sickle Cell Disease Curative Therapies Working Group recommends that one method to measure left ventricular global longitudinal strain by speckle tracking echocardiography be used consistently to monitor study participants. The guidelines note that differences between imaging equipment and software applications from different vendors may result in differences between similar calculations for various technical reasons. Spatial and temporal resolution of acquired images may differ. Software applications employ different tracking techniques, which may differ in accuracy and reliability. Image resolution and overall image quality may produce variability in results.

Protocol source: <https://www.phenxtoolkit.org/protocols/view/850201>