In pathological humeral heads, the best-fit sphere is aligned with the preserved lateral landmarks of the humerus. Optimal placement and size of the best-fit sphere is important to determine the center of rotation (COR) of the humeral head and the normalized percentage of offset.

This graph plots the measured glenoid retroversion in degrees for each patient compared with the humeral-scapular alignment (HSA) offset calculated as percentage of the diameter of the humeral head. A trend line was fit to the data.
Fig. E-3
This graph plots the measured glenoid retroversion in degrees for each patient compared with the humeral-glenoid alignment (HGA) offset calculated as percentage of the diameter of the humeral head. A trend line was fit to the data.