

**Concept Question 1-10:** How does an ultrasound imager focus its beam in the range direction and in the lateral direction? There are two orthogonal lateral directions, so how is that managed?

The transducers generate identical signals, but time shifted relative to each other. By adjusting the time shift between transducers, the location where they constructively interfere (which is imaged) can be moved. Using a 2-D array, this location can be varied in different directions as well as different distances.