ABSTRACT:

Previous research has found that depression in adulthood and adolescence are associated with abnormalities in brain systems involved with emotion processing, including the amygdala, pregenual cingulate, and other frontal and cingulate regions thought to be involved in emotion regulation. Recent research has also validated the occurrence of depression in preschool aged children (PO-MDD), including findings of symptom specificity discriminating PO-MDD from other early onset disorders, familial transmission (Luby et al., 2002a), biological correlates (Luby et al., 2003), impairment across multiple contexts (Luby et al., 2009a), and longitudinal stability (Luby, 2009). However, little is known about whether PO-MDD is also associated with alterations in the neural systems supporting emotion processing and regulation. In this talk, I will overview results from two ongoing studies of PO-MDD in which we are examining the influence of early onset depression on brain function, brain structure and emotion processing. In these studies, we have found that early onset depression is associated with alterations in amygdala and prefrontal activity in response to faces with negative emotion. In addition, we have found decreased connectivity between the amygdala and dorsal prefrontal and parietal cognitive control regions. These results suggest that there is developmental continuity in the relationship between alterations in the neural systems supporting emotion processing and depression across the life span.