

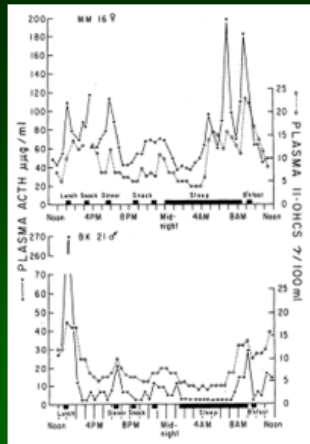
### Diurnal / circadian patterns of cortisol release

- normally, secretion begins to rise between 0200 and 0400
- peaks within 1 hr of waking
- declines gradually to low levels during the evening
- lowest levels at and after midnight

Arlt W. The approach to the adult with newly diagnosed adrenal insufficiency. *J Clin Endocrinol Metab.* 2009;94(4):1059-67.

### Circadian and ultradian patterns of cortisol release

- there is a pulsatile pattern of release of ACTH and cortisol, embedded within the diurnal pattern
- biologic consequences may be significant
- present treatment modalities do not capture pulsatility of cortisol release



Krieger, D. T., W. Allen, et al. (1971). "Characterization of the normal temporal pattern of plasma corticosteroid levels." *J Clin Endocrinol Metab* 32(2): 266-284.

Adapted from

## ADDISON'S DISEASE SUPPORT GROUP FOR NORTHERN ILLINOIS

APRIL 6, 2014

Susan S. Braithwaite, MD  
Visiting Clinical Professor

Division of Endocrinology, Diabetes and Metabolism,  
University of Illinois at Chicago