

F A L L 2 0 1 4

# BRASS News

Brigham and Women's Hospital

## Thank you from the Directors

We would like to thank all the participants for their continued participation and support of the BRASS Study. BRASS is a monumental success because of our devoted participants who have answered many questionnaires, taken x-rays and contributed blood work over the past 12 years!

We look forward to the continuing the advancement of rheumatoid arthritis knowledge because of you. Thank you again for your time and support!

Sincerely,

Nancy A. Shadick, MD, MPH

Michael Weinblatt, MD

Christine Iannaccone, MPH

New "Patients Like Me" webpage at [BRASSstudy.org](http://BRASSstudy.org)!

Starting November 2014 look for a new section on the BRASS webpage that will showcase how participants are doing using information you have provided. We will use de-identified data to look at groups of participants to allow you to understand how data you contribute to BRASS is used.

If you have an idea for our webpage please email us at [Brassstudy@partners.org](mailto:Brassstudy@partners.org) and let us know.

## Rheumatoid and Psoriatic Arthritis Support Group

Second Wednesday of every month

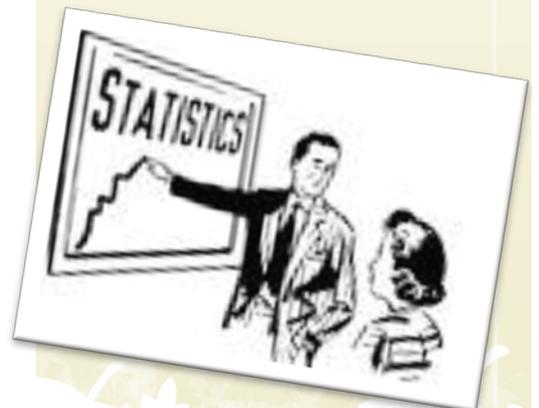
12:15-1:15PM

15 Francis St, Boston, MA

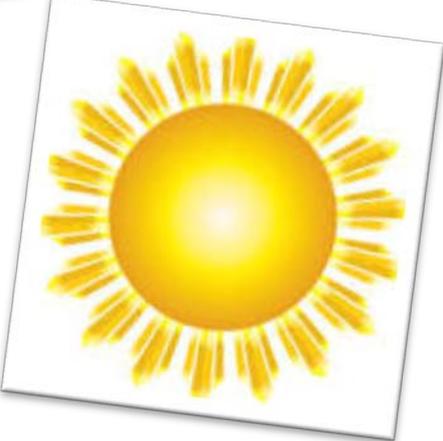
Frank K Austen Conference Room (PB-B3)

Facilitated by Rheumatology Nurses: Pat Green & Fran Griffin

For more information contact: Hannah Tadley at 617-525-6608



## Sleep Problems in RA Patients



Over 60% of RA patients report sleep problems. BRASS participants recently filled out additional questionnaires addressing their sleep habits, including a questionnaire that described the patient's chronotype (the preferred time of day when individuals are active, awake and alert). Previous studies suggest that chronotype, sleep problems, pain and emotional well-being are linked. In the general population, evening chronotype (preference for activity in the evenings) is associated with poor sleep, pain and depression. Our study examined the association between chronotypes and measures of sleep, pain and emotional well-being among RA patients with sleep problems.

We analyzed data from 191 BRASS patients who participated in our sleep substudy. 43 (22.5%) individuals exhibited a morning preference, 67 (35.1%) exhibited an evening preference and 81 (42.4%) were intermediate chronotypes. Evening chronotypes reported longer sleep duration (6.8 hours vs. 6.1 hours) than intermediate chronotypes. Although not statistically significant, evening chronotypes reported the lowest scores for sleep adequacy and the highest scores for somnolence (daytime sleepiness). Evening chronotypes also had the lowest mean scores on the MHI-5 (emotional well-being scale). Both morning and evening chronotypes had similar scores on the sleep disturbance scale, fatigue scale and the pain scale.

Compared to published literature regarding the distribution of chronotypes in the general population, our results suggest that individuals with RA may be more likely to exhibit an evening preference than population controls. Although evening chronotype has been associated with worse sleep problems, pain and depression in the general population, these associations were not observed in this study of RA patients at a level of statistical significance. Additional studies are needed to determine whether reports of morning/evening preference may be impacted by inflammatory disease activity and whether the presence/absence of inflammation changes the relationship between chronotype, pain, sleep problems and emotional well-being.



## The Association of Body Mass Index with Progression of Joint Disease in RA Patients

Previous studies suggest that lower body mass index (BMI) is associated with progression of joint damage in RA. Whether the association of BMI and joint damage may be influenced by RA disease activity is currently unknown. Using data from the BRASS study, we examined the relationship between BMI and joint damage and RA disease activity.

We studied 543 patients in BRASS with hand x-rays and 13% of the patients were considered to have progression of joint damage. Our analyses showed that patients who were underweight or normal weight had a significant increase in the odds of

having joint damage progression compared to patients who were obese. Having a higher level of RA disease activity was also independently associated with greater odds of having joint damage progression.

In conclusion, we were able to find an association of lower BMI with joint damage progression in RA, independent of high RA disease activity. Unfortunately, further research is necessary to understand the biological role BMI plays in joint damage progression, as well as the involvement of inflammation in the relationship between BMI and progression of joint damage in RA.

## FREE Parking for BRASS Patients!

If you drive to BWH on the day of your BRASS study visit, just tell us.

We can validate your parking!



## Meet the New Research Assistants

### Hannah Tadley

Hannah Tadley graduated from Tufts University in May 2013 with a degree in Community Health and Child Development. She joined the BRASS team in June 2014 after working for a year at BWH Cardiovascular Health and Wellness Service. She plans on eventually going back to school for a Masters in Public Health.



### Lauren Dewey

Lauren graduated in May 2014 from UMASS Amherst with a degree in neuroscience. She is interested in health sciences as a career, and is exploring possible options to further her education. In her free time she enjoys reading, baking, her dog Rocco and trying out new hobbies.



### Miranda Girard

Miranda graduated from Worcester State University in May of 2014 with a degree in Biology. Before joining the BRASS team in October 2014, she was working as a medical lab assistant. Miranda plans on pursuing a Masters in Public Health.

## Cognitive Difficulties in Rheumatoid Arthritis Patients

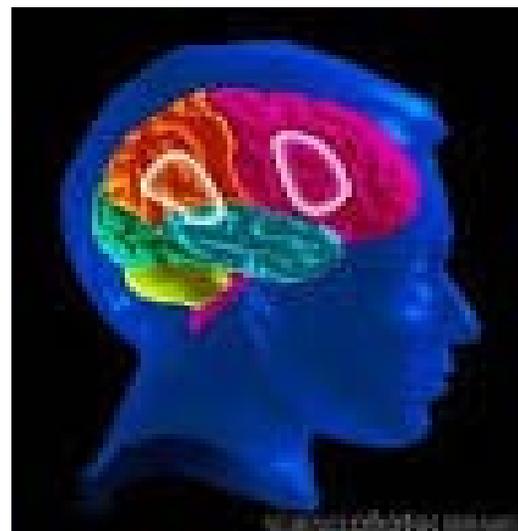
Previous research has suggested that RA may increase your risk for worsened cognition later in life compared to the general population. Current research in dementia has indicated that a patient's new report of cognitive complaints may be an indicator of early cognitive decline. However, little is known about the predictors of cognitive decline and even less is known of how a change in risk factors associated with cognitive decline may affect an RA patient's perceived cognitive function.

BRASS participants answer three questions annually that assess their cognitive function. We analyzed data from BRASS to assess predictors for cognitive complaints. Our predictors included age, gender, ethnicity, education, and cardiovascular risk. We also assessed whether changes in depression, fatigue, sleep, exercise, RA disease activity and steroid use. In our analysis we looked at all these variables together to assess their impact on the degree of cognitive complaints.

Our analyses included 1126 BRASS subjects who had at least two annual study visits. An increase in depression, fatigue, and steroid use, as well as, a decrease in sleep quality and exercise level were associated with a worsening of cognitive complaints. Looking at patients a year later, we found only worsening depression, fatigue and increased

steroid use were associated with cognitive complaints after taking into consideration age and gender. Neither a change in RA disease activity nor exercise level impacted a patient's report of cognitive complaints.

Cognitive difficulties in RA are affected by a worsening of psychological factors such as depression but also to a change in steroid use and fatigue. In our study, it did not appear that the level of RA disease activity influenced cognitive complaints over time. Future studies of cognitive difficulties in RA patients should focus on whether steroid use and fatigue levels may be markers of RA disease activity that may drive patients to more likely report cognitive difficulties.



# Newest Scientific Abstracts

The American College of Rheumatology Conference is in Boston this November. BRASS co-investigators and sponsors submitted multiple scientific abstracts that were accepted for presentation at this national platform for rheumatology research. Please see the notable list below.



1. The Association of Body Mass Index (BMI) and Radiographic Progression of Joint Disease in Rheumatoid Arthritis (RA). *Iannaccone C, Cui J, Coblyn J, Liao K, Weinblatt M, Shadick N.*
2. Predictors of Deterioration in Subjective Cognition: Results from a Rheumatoid Arthritis (RA) Observational Cohort Study. *Iannaccone C, Cui J, Coblyn J, Weinblatt M, Shadick N.*
3. Comparison of Quality of Life, Resource Use and Physical Functioning in RA Patients Classified as High, Moderate or Low Risk for Rapid Radiographic Progression. *Alemao E, Joo S, Allison PD, Al M, Rutten M, Banerjee S, Iannaccone C, Frits ML, Shadick N, Weinblatt M, Liao KP.*
4. The Multi-Biomarker Disease Activity Score as a Predictor of Radiographic Progression in a Longitudinal Registry of Patients with Rheumatoid Arthritis. *Sasso EH, Wu G, Hwang CC, Weinblatt M, Shadick N, Alexander C, Seguardo OG.*
5. The Association Between a Reduction in Inflammation and Changes in Lipoprotein Levels and HDL Cholesterol Efflux Capacity in Rheumatoid Arthritis (RA). *Liao K, Playford M, Bradwin G, Coblyn J, Iannaccone C, Rifai N, Weinblatt M, Shadick N, Mehta NN.*
6. Early Birds Versus Night Owls: Morning/Evening Preference and Its Association with Sleep Problems, Fatigue, and Emotional Well-Being Among RA Patients. *Wohlfahrt A, Cui J, Frits M, Iannaccone C, Coblyn J, Shadick N, Weinblatt M, Lee Y.*
7. Inflammatory Biomarkers, Sleep Quantity and Sleep Quality in Rheumatoid Arthritis. *Fine AS, Frits M, Iannaccone C, Coblyn J, Weinblatt M, Shadick N, Lee YC.*
8. Benefits of early Onset of DAS28(CRP) <2.6 on Physical Functioning, Quality of Life and Resource Use Among RA Patients in a Clinical Practice Setting. *Alemao E, Joo S, Kawabata H, Banerjee S, Frits.ML, Iannaccone CK, Shadick NA, Weinblatt M.*