Dear Friends,

MS is at least two to three times more common in women than men. There is mounting evidence that the female hormones, such as estrogen and progesterone, not only affect the reproductive system, but also the nervous and immune systems. Many women with MS find their symptoms worsen just before and during a menstrual cycle, and also while going through menopause. The associated decrease in estrogen levels at these times may be a contributing factor. Learn more about how the menstrual cycle, and the lack thereof, can affect MS symptoms.

MS is prevalent in women of childbearing age. In general, women with MS have normal, healthy pregnancies. In fact, most women find their MS symptoms improve during pregnancy, especially during the second and third trimesters. Higher levels of natural corticosteroids and estrogen (among other things) present at this time are thought to be responsible for this improvement. Unfortunately this respite isn’t long lasting, as relapse rates tend to rise in the first three to six months after delivery, and return to pre-pregnancy levels over time. A recent study also showed that women who breastfeed exclusively may have a lower risk of relapse during that time period. Our second article sheds light on the relationship between MS, pregnancy and breastfeeding.

Many women with MS who are employed know from experience how difficult it is to juggle a career, family and MS. In 2014, the Working Mother Research Institute (WMRI) conducted a nationwide study to better understand how MS affects women. The results of the study provide details on how women cope with MS at home and at work. Read more about these interesting research results.
Our Partner Spotlight this month is the Multiple Sclerosis Association of America (MSAA). This national nonprofit organization is dedicated to improving the quality of day-to-day living for everyone affected by MS. They do this by providing a wide range of valuable services to the MS community free of charge.

Our iConquerMS Spotlight highlights REAL MS™ (Research Engagement About Life with MS). Not a member of iConquerMS? Join today, fill out your baseline surveys, and contribute your valuable data for MS research. Our Repository Spotlight highlights the work of Dr. Tom Aune at Vanderbilt University. His work is focused on individual biomarkers that may provide insight into abnormal gene expression seen in MS. This work could lead to better diagnosis and treatments for MS.

We appreciate your support and hope that you are enjoying the beautiful days of spring.

The Accelerated Cure Project Team

**MS and the Menstrual Cycle – Does one affect the other?**

There is mounting evidence that female hormones, such as estrogen and progesterone, not only affect the reproductive system, but also impact the nervous and immune systems. MRI studies done in women with MS at different times of the menstrual cycle indicate that disease activity as measured on MRI may cyclically vary in synchrony with a fluctuating hormonal environment. Many women, too, find that their MS symptoms worsen just before, and during a period (especially weakness, balance, fatigue and depression). The decrease in estrogen levels leading up to menstruation may be a contributing factor. A slight rise in core body temperature that occurs a few days before and during menses may also make MS symptoms feel worse.

Some women with MS find it helpful to keep a monthly journal to look for patterns in their neurological symptoms. If MS symptoms worsen predictably around menses, schedule changes can be made to allow for more rest when symptoms will be on the rise, or perhaps increased doses of medication for symptom management. Drinking cool fluids, as well as cooling equipment can also be helpful at this time. A small study done at Mayo Clinic suggests that aspirin may also relieve
fluctuating MS symptoms associated with the menstrual cycle. However, it is important to note that the number of subjects in this study was small (only 3), and subjects took a fairly high dose of aspirin (650 mg twice daily), which poses risks if taken long term.

Another solution may be to reduce the impact of periods or even stop them altogether. A study published in 2009 shows that using oral contraceptives has the potential to ease MS symptoms. Researchers are still working to fully understand this effect. Extended cycle oral contraceptives (COC’s) can be used to delay, or stop menstruation. Traditionally, oral contraceptives are packaged with 21 active (hormone-containing) pills and 7 inactive (placebo) pills. During the week of placebo pills, withdrawal bleeding occurs and this simulates an average 28-day menstrual cycle. COC’s reduce or eliminate the placebo week, which in effect delays or stops monthly periods. Menstrual cycles can also be eliminated with the use of hormone-based intrauterine devices. The safety of hormone-based contraception depends on your age, smoking status, mobility status, and other aspects of your medical history. Whether or not hormone-based contraception is appropriate is something that should be discussed with one’s healthcare provider.

Some medications used to treat MS can have an effect on the menstrual cycle. Copaxone (glatiramer acetate) has no known effects on menstruation. On the other hand, drugs such as Novantrone (Mitoxantrone), Cytoxan (cyclophosphamide), Tysabri (natalizumab) and beta interferons (Avonex, Betaseron, Extavia, Plegridy and Rebif) are known to cause irregularities in the menstrual cycle. Beta interferon treatment, for example, can cause vaginal bleeding between cycles.

The median age at natural menopause in women with MS is the same as for women in the general population, about 51 years old. As women with MS age, they face the typical symptoms of menopause: hot flashes and changes in mood, sleep, energy levels, as well as in bladder function. All women should make sure their regular health maintenance (bone density testing and other screening tests) is up to date as they approach menopause.

MS symptoms may slightly worsen while going through menopause. One possible reason for this is the decline in estrogen that occurs around this time of life. Levels of estrogen fluctuate during perimenopause (the period leading up to menopause) and decrease after menopause. Hormone replacement therapy (HRT) can be used to relieve menopausal symptoms. HRT has also been found to improve symptoms of MS. Women with MS can use all forms of HRT (tablets, patches, gels and
implants), however many choose against it because of the associated risks involved. HRT increases the risk of certain serious conditions, including heart disease, stroke, blood clots and breast cancer. Women should discuss these risks and other treatment options with their doctors. Some women with MS use antidepressant therapy or stress management techniques instead. Others use alternative therapies, such as topical hormone creams.

Studies have shown that women with MS can be at a higher risk for osteoporosis. Among many factors, regular weight-bearing exercise can help prevent osteoporosis in women. However, physical exercise can be difficult and exhausting for some MS patients. Many experience a reduction in mobility, and this lack of mobility can increase the chances of osteoporosis (those in wheelchairs being most at risk). In addition to not being active, the use of steroids during MS treatment can also increase the chances of developing osteoporosis. Women with MS should talk to their doctor about the factors that increase their individual risk for osteoporosis and what, if anything can be done to lower it. In addition, women with MS should begin having bone density scanning earlier than the standard age of 65.

It is important to note that MS symptoms and menopause symptoms may overlap. Identifying which symptoms are due to MS and which are due to menopause can be challenging. This is an important distinction when deciding on treatment. A new MS symptom might call for a change in a woman’s MS treatment plan, while a symptom of menopause might call for lifestyle changes, hormone therapy, or some other type of drug treatment. In either case, symptoms caused by one condition may worsen symptoms of the other. For example, if hot flashes keep a patient up all night, she may be more likely to feel fatigue, depression and exacerbated MS symptoms the next day.

Very little research has been done on the effects of the menstrual cycle and menopause on MS disease activity. The studies that have been conducted to date suggest the interval surrounding both may be linked to worsened MS symptoms in some women, but more studies are needed to confirm these associations. In addition, more research is needed into the benefits of hormone-based therapies for women with MS before any determination can be made as to whether their benefits outweigh the risks. The fundamental tenet of the Accelerated Cure Project’s mission is to facilitate research efforts such as these. It is our hope that, through research, diagnosis, treatment outcomes and quality of life will be improved for all people living with MS until a cure is found.
Pregnancy – Maternity Leave from MS Symptoms?

Up until the 1950’s women with MS were counseled to avoid pregnancy because of the belief that it might make their MS worse. In fact, researchers have since determined the opposite is true. Higher levels of natural corticosteroids and estrogen are present during pregnancy. These hormones have an anti-inflammatory and seemingly neuro-protective affect, such that relapses decrease by about 70 percent during the second and third trimesters. Pregnancy is also known to be associated with an increase in a number of circulating proteins and other factors that are natural immunosuppressants. This positive effect is not long lasting, however, as relapse rates tend to rise postpartum and then return to pre-pregnancy levels. Over the long term, pregnancy does not have a significant impact on overall disability level.

MS is prevalent in women of childbearing age, many of whom share concerns about MS and its treatments during pregnancy and following childbirth. If couples living with MS are considering pregnancy, it is important for them to form a support team that includes a neurologist, an obstetrician and a pediatrician (postpartum) to help sort through any concerns they may have, and develop strategies to resolve them. For those struggling despite their support team’s efforts, the National MS Society also provides guidance and encouragement through any challenges couples may face.

MS does not affect fertility. As a result, couples seeking to avoid pregnancy need to make the same decisions about contraceptive use as anyone else. Any form of birth control can be used, although some medications used to treat MS symptoms (for example, steroids) may reduce the effectiveness of oral contraceptives. With this in mind, women with MS should consult their support team on any potential drug interactions. Some women with impaired use of their upper extremities or decreased sensation may have mechanical difficulty using barrier methods of contraception, such as a diaphragm.

Women who use corticosteroids for acute MS relapses may continue to use them during pregnancy. The most commonly used steroid, Solu-Medrol (methylprednisolone), is metabolized before it crosses the placenta, and therefore poses no threat to the fetus. The same is true
for prednisone, even at high doses. Research has shown corticosteroids can make it into the breast milk, however, so most doctors suggest stopping them while breastfeeding. Should a course of steroids be necessary while nursing, extra breast milk can be pumped beforehand and stored for use during treatment.

None of the available disease-modifying therapies (DMTs) are approved for use during pregnancy, as almost all have been associated with potential fetal harm in animal or human studies. While some of these medications cause fewer complications, others are highly toxic. The Food and Drug Administration divides medications into five categories based on their level of toxicity – categories A, B, C, D and X, with category A being the least dangerous. MS DMTs fall into categories B, C and X. Copaxone (glatiramer acetate) is a Category B medication, meaning it shows no risk in animal models, however there aren’t adequate studies in pregnant women to make any determination about risk in humans. Some neurologists permit use of Copaxone until the point of conception. The interferons (Betaseron, Avonex, and Rebif) and Tysabri (natalizumab) are Category C medications. These show an adverse effect on the fetus in animal studies, but again, there are insufficient data to know the risk in humans. The benefits of using a category C DMT during pregnancy must be weighed against its potential risks. Most neurologists recommend a washout period (one full menstrual cycle) before trying to conceive. Novantrone (mitoxantrone) is a category X medication (fetal abnormalities have been demonstrated in animal and human studies). In general, Novantrone should not be used during pregnancy, as the risks involved clearly outweigh potential benefits.

A woman can resume her DMT immediately following delivery unless she is planning to breastfeed. If her disease has been particularly active prior to and during pregnancy, the recommendation may be for her to resume her medication as soon as possible. To limit the time off medication, many find it helpful to learn their “fertility window” (the time of month when you are most likely to conceive). Ovulation kits are commercially available for this purpose. Support teams can recommend other ways to help with timing, too. In women with active disease, it may be appropriate to defer attempting pregnancy until disease activity is under satisfactory control. It’s important to note that some symptomatic therapies for MS, such as anti-spasticity agents, antidepressants and medications for bladder control are category C drugs, and their use during pregnancy should be discussed with the support team. Doctors typically advise women to avoid taking any of these medications while pregnant or breastfeeding.
MRI’s are generally thought to be safe during the second and third trimesters of pregnancy. However, there aren’t sufficient data available to know their safety during the first trimester, when most of the fetal organs and body structures are formed. Gadolinium contrast is known to be harmful to the fetus, as well as infants. Therefore, MRI’s even without contrast should be avoided during the first trimester, and gadolinium enhanced MRI’s should generally be avoided at any time during pregnancy. A woman who requires a contrast enhanced MRI while breastfeeding should pump and dispose of the breast milk for 24 hours after receiving the gadolinium.

Though most of the impact of pregnancy on MS is positive, there are a few things to keep in mind. Women with MS will likely need close monitoring to keep track of their disease and the health of the fetus, leading to more frequent prenatal visits. Those with gait difficulties may find these worsen during late pregnancy as they become heavier and their center of gravity shifts. Assistive devices for ambulation, or a wheelchair may be helpful under these circumstances. Bladder and bowel problems, which occur in many pregnant women, may be aggravated in women with MS who have pre-existing urinary or bowel dysfunction. MS patients may also be more subject to fatigue. Women with MS have a higher risk of depression during pregnancy and especially right after they give birth.

In general, there are no special considerations for women with MS with regards to labor and delivery. However, if there is a loss of sensation below the waist and weakness in the pelvic muscles, a woman may not feel pain with contractions. This would make it hard to tell when labor starts. In this case, close observation is necessary during the last month of pregnancy and drugs or other procedures to induce labor may be necessary. If fatigue or muscle weakness impacts the ability to push, special tools can be used to help deliver naturally, or a C-section may be necessary. All forms of anesthesia and medications to block pain (including injections called epidurals) are considered safe for women with MS.

Relapse rates tend to rise in the first three to six months after delivery, and return to pre-pregnancy levels over time. These postpartum exacerbations do not appear to contribute to overall disability long-term. Studies show those women who have had more disease activity prior to and during pregnancy, are more at risk for developing postpartum relapses. Therefore, good postpartum care is important. Depending on the patient’s disease activity before and during pregnancy, as well as her desire to breastfeed, neurologists often recommend women go back on DMT to prevent postpartum relapses.
As alluded to previously, none of the DMTs are considered safe for use in nursing mothers because there is insufficient information as to whether the medications are excreted into breast milk. Therefore, women who are breastfeeding should discuss their medication options with their support team. But also, just like with pregnancy, breastfeeding seems to improve MS symptoms. A recent study showed that women who breastfeed exclusively (without bottle supplementation) for at least the first two months had a lower risk of relapse. However, any decision regarding breastfeeding should take into account the medications a woman needs to resume taking postpartum for disease or symptom management.

From a genetics standpoint, couples living with MS can be reassured that MS will not cause any harm to their baby. MS is not a directly inherited disease. While genes are important determinants of a person’s risk for MS, they are not the only factor. Rather, it’s thought to occur due to a combination of genetic factors, environmental factors and immune factors. In general, women with MS have normal, healthy pregnancies. If you want to start a family, having MS doesn’t have to stand in your way.

**Work and Family – Covering All the Bases**

Multiple sclerosis is at least two to three times more common in women than men. Most are diagnosed between the ages of 20 and 50, right at the time when they are juggling increasing demands of both career and family. In 2014, the Working Mother Research Institute (WMRI) conducted a nationwide study to better understand how MS affects women. The results were published in the Women and MS report. Data was collected for the study via an online questionnaire. With the help of the National Multiple Sclerosis Society (NMSS), 1,248 women with MS were enrolled in the study, the vast majority of whom (95%) were employed. The average age of participants was 40, and the average age of MS diagnosis was 32. The results shed light on many of the challenges that women with MS face in their personal and professional lives.

Data collected for the study revealed that most women deal with the impact of MS on a daily basis. The most common MS symptoms were fatigue, numbness and tingling, followed by difficulty with thinking and memory. More women found it easier to manage these symptoms in their personal life than in their professional life. In general, women with mobility issues worried more and had more
difficulty managing symptoms. The majority of respondents were pro-active about treatment, 85% felt they were well versed on treatment options and 79% reported taking a disease modifying treatment (DMT).

Study results suggested the vast majority of women with MS are likely to consult their doctors (95%) or do online research (99%) when they have questions about their disease. Most participants were satisfied with the information they gathered. However, younger women (particularly those under age 30) expressed dissatisfaction with available information about the impact of MS on women’s health (fertility, pregnancy, childbirth and breastfeeding). Women of this age also preferred a more “conversational” approach to learning about MS. They were more likely than older women to seek information from blogs, social media, friends or family.

According to the WMRI study, having MS doesn’t appear to affect a woman’s decision to marry or have a relationship, but it does have a mixed impact on raising children. On the plus side, the vast majority of women in the study (95%) felt a strong relationship with their children was possible despite having MS. The majority of those surveyed also felt having MS showed their children how to face challenges and succeed (71%), as well as how to deal with the unexpected (66%). On the other hand, there was a consensus that MS symptoms prevented moms from participating in activities with their children (64%) and decreased spontaneity in family activities (51%). About a third of respondents were concerned their children would feel embarrassed or nervous about bringing friends home because of their MS. Of note, those with mobility issues were more likely to have difficulties with regards to these last three points. Of interest, less than half of study participants reported their kids took on more responsibility around the house as a result of mom’s disabilities.

The WMRI study provides revealing data on how women with MS cope in the work environment. Approximately half of those who were not currently employed (but were within two years of completing the survey) cited MS as the reason. Bladder and/or bowel problems were a common source of anxiety and discomfort on the job. Over half of those surveyed said they struggled with thinking or memory. Many also had difficulties with mobility at their workplace (for example, walking long distances and navigating uneven surfaces) or attending work events late in the day. In addition, environmental factors (such as certain kinds of lighting) were challenging for a number of subjects. Over half (55%) of study participants felt they were not performing their best at work. More subjects (71%) worried about their ability to
continue working (a legitimate concern as 60% of them missed work due to MS in the 12 months prior to completing the survey). The data indicated that many (60%) try to hide their MS symptoms on the job. Only half of women felt their supervisor was sensitive to their needs, and fewer (39%) felt their supervisor was interested in helping them manage their MS symptoms in the workplace. Sadly, a third of women dreaded going to work because of their MS.

These data clearly indicate that women with MS need more help while at work. Flexibility was the number one priority among study participants. Unfortunately, surprisingly few reported being offered the flexibility they need. For example, the vast majority (95%) indicated flexibility to take time off for doctors’ appointments was necessary, but less than half (43%) were able to do so. Most (91%) needed the ability to change their work schedule, however only 41% had this option. In addition, three quarters of those surveyed needed flexibility regarding the ability to work from home or to work part-time and only 26% could do either.

The Women and MS report includes several avenues by which employers can help those with disabilities reach their career goals and improve their job satisfaction. To name a few, employers can discuss career planning, including opting for a less intense career path, reducing the number of hours worked, or taking time off. It’s important for employers to encourage openness in the workplace so teams understand what an individual living with MS is dealing with and what changes might be helpful for them (for example, scheduling critical meetings in the morning when energy levels are higher, evaluating accessibility, or adjusting the temperature/lighting of an individual’s office). Employers can also consider offering additional benefits, such as counseling or support groups. Roughly half the women surveyed in the WMRI study said they often felt overwhelmed and more than a third said they felt isolated, indicating a need for these services. Health savings accounts can be used for gym memberships, or incentives offered for employees that reach personal fitness goals. These benefits can encourage employees to stay physically active (the benefits of which have been clearly demonstrated in people with MS, and in the general population).

The WMRI study illuminates how difficult it is to juggle a career, family and MS. Study results stress the importance of staying proactive about treatment options, as well as making accommodations in home and work routines to compensate for disabilities and to preserve energy levels. It’s critical for all people with MS to have a support system to help meet the demands at home and in the workplace. As described in our Partner Spotlight this month, the Multiple Sclerosis Association of America (MSAA) offers many valuable resources for the MS community.
The Multiple Sclerosis Association of America (MSAA) is a national, nonprofit organization dedicated to improving the quality of day-to-day living for everyone affected by MS. They do this by providing a wide range of valuable services to the MS community free of charge. MSAA’s programs are centered on the MS patient and their care partner’s needs and perspective. They strive to keep in touch with the MS community to optimize the benefit of their programs. According to Gina Murdoch, President and CEO of MSAA, “we welcome feedback from the MS community and try to adjust information and services to meet their needs and interests.”

One mainstay of MSAA’s programs is a shared management philosophy in which patients and healthcare providers work together toward the best quality of life for the patient. MSAA has developed a number of tools to help those living with MS communicate with their physicians and proactively manage their healthcare. My MS Manager™ is a free mobile phone application that can track disease activity and store medical information. My MS Manager also has a journaling function that enables patients to keep a log of their symptoms. All of this information can be securely shared with one’s healthcare team, enabling MS patients and their physicians to closely track and manage disease activity. In Gina’s words, “The journaling function provides the opportunity to have that dialogue going with your provider…it helps patients make the most of their time with providers.”

With more than 31,000 downloads and 15,000 users to date, My MS Manager was named one of Healthline’s best MS apps in 2018. MSAA’s S.E.A.R.C.H™ Program helps individuals with MS and their healthcare teams make choices in the evolving landscape of MS treatments in order to achieve the best treatment outcome. Each letter of the program’s acronym represents an important topic that should be considered when choosing an MS treatment for the first time, or when making treatment adjustments – safety, effectiveness, access, risks, convenience and health outcomes. My MS Resource Locator® is an online database of helpful information and support services for those living with MS.

Recognizing that chronic illness can feel very lonely at times, MSAA offers ways for people affected by MS to connect with and support one another. My MSAA Community is a secure online community in which members can interact through online conversations. MSAA has featured “Ask Me Anything” sessions with neurologists, in which an expert is available for one hour for questions on the My MSAA
Community forum. Gina states, “We’re able to offer a safe environment for our members to share experiences, get feedback and ask questions...It’s up to you how involved you want to be.” MS Conversations is the official blog of MSAA. MS Conversations includes posts from guest bloggers living with MS, as well as interactive discussions on topics of importance to the MS community. According to Gina, “It’s a whole host of conversations of people living with MS...MS Conversations isn’t singularly focused on treatment and medical topics. A lot of it is life in general and dealing with chronic disease.” MSAA also hosts a toll-free Helpline that offers free support and encouragement to those encountering challenges, experiencing changes in their symptoms, or simply looking for information. Helpline specialists, all with a social services or counseling background, can be reached by phone, email, through the chat feature on the MSAA website, or through MS Conversations.

MSAA believes that knowledge is empowering. Their educational programs provide an opportunity to connect and learn from the country’s leading healthcare professionals. Each program contains a question and answer session during which attendees and the presenting professional interact. Their booklets provide up-to-date information on relevant topics (for example, About MS or Understanding Progression in MS) in easily understood language. MSAA also publishes a national magazine, The Motivator, twice per year. This publication includes cover and feature stories of relevance to the MS community, as well as regular columns such as “Ask the Doctor,” “Research News,” and “Stories to Inspire,” to name a few. The MSAA Lending Library program offers a comprehensive selection of books and a variety of DVDs that cover disease and symptom management, wellness, personal stories from people living with MS, care partner issues, and many other important topics. Their lending policy makes these resources readily available. Participants can borrow one title at a time for up to 45 days. MSAA covers all outgoing and return mailing costs. In addition, MSAA offers an extensive library of on-demand videos, webinars and webcasts that offer a wealth of information that can be conveniently accessed online.

MSAA’s robust website is another source of valuable information for those living with MS. Recognizing that every individual’s experience is different and constantly evolving, My MS Journey is designed to help individuals find relevant information that matches where they are in their journey with MS. This area of the website is divided into three sections: Just Starting Out (for those newly or recently diagnosed), Staying On Course (for day-to-day management of MS), and The Seasoned Traveler (for those with mobility, independence or caregiving needs). The MS Relapse Resource
Center contains detailed information on relapses and treatment options. This section also provides the opportunity for individuals to learn about the experiences of others by reading completed survey summaries. In addition, on-demand videos are available featuring MS experts discussing relapses. My Health Insurance Guide is aimed at helping the MS community better understand the details surrounding their health insurance options. This guide covers a range of important topics, including The Affordable Care Act, non-Medicare insurance, and Medicare insurance programs.

General good health and wellbeing are especially important to people with MS. MSAA provides considerable information relating to overall wellness. Their website includes helpful tips and resources to help individuals both emotionally and physically. Regular exercise is an important part of staying healthy. For people with MS, exercising in water is often easier because of the buoyancy and cooling effect it provides. With this in mind, MSAA’s online Aquatic Center is aimed at spreading awareness of the availability and benefit of water-based exercise programs. The overall wellness section of the MSAA website also includes information on many other relevant topics, such as health and disability insurance, employment and financial planning.

In addition to providing essential information to those living with MS, MSAA’s programs are aimed at providing valuable equipment to improve their quality of life. Many people with MS find that heat and humidity often aggravate their MS symptoms. The MSAA Cooling Distribution Program offers cooling vests, smaller products to wear under clothing and other accessories to help cool the neck, wrists and ankles. The Equipment Distribution Program offers products designed to help those with balance, coordination, and mobility issues. Items distributed through this program include shower chairs and grab bars, as well as canes, walkers and wheelchairs. MSAA ships products for both of these programs to qualified individuals free of charge.

Recognizing that the cost of Magnetic Resonance Imaging (MRI) scans can be prohibitive, MSAA’s MRI Access Fund helps qualified individuals who are uninsured or under-insured obtain the tests they need as recommended by their healthcare providers. This fund assists with the payment of brain and c-spine MRI’s to help determine a diagnosis of MS or to evaluate MS disease progression. In Gina’s words, “This program is the hallmark of our organization. We can work with those with commercial insurance, Medicare or Medicaid. We contract with imaging centers across the country. We figure out what the doctor wants, find the most convenient imaging center for the
patient and pay the center directly.” The MRI Access Fund was recently expanded to include retroactive reimbursement for scans done as of July 1, 2017.

Every year, MSAA celebrates the work of artists affected by MS through their art showcases. Their MS Ability Art Showcase features artwork that portrays people, places or things and their Four Seasons Art Showcase features artwork that depicts a specific season or holiday. According to Gina, “Art has been an anchor for many people living with MS. Many have also found it to be a respite. There’s a sense of normalcy to it. It’s something people are still able to do despite MS.” Artists include background or a story from their journey with MS, which adds a personal touch to each piece of artwork. In Gina’s words, “It’s therapeutic on both sides. It’s therapeutic for the person doing the artwork, and it’s also therapeutic for people to see the artwork and read the story behind it.” In addition to the online showcases, some artwork is also used for calendars or notecards. Submissions for both showcases are accepted between October and December each year.

In addition to her role at MSAA, Gina also serves on the Engagement Committee for iConquerMS. In her words, “We appreciate the collaboration and partnership with the Accelerated Cure Project. I think there’s a collaborative effort between the organizations to bring forward the patient voice.” The importance of patient experience and perspective is evident in MSAA’s mission and programs. They offer a wealth of information, resources and encouragement to help those living with MS manage the challenges they may encounter, and live the fullest life possible. As Sara, one of MSAA’s clients, shares in this video, these programs are a meaningful gift to the MS community.
**iConquerMS™ Spotlight – REAL MS**

In the summer of 2016, iConquerMS launched **REAL MS™** (Research Engagement About Life with MS), a longitudinal study of MS during which participants periodically provide information about their experience with MS through surveys. In March 2018, a fourth round of REAL MS surveys were released through the iConquer MS portal. The information collected through these surveys will play a pivotal role in helping scientists and clinicians gain a better understanding of the health and quality of life over time for people with MS. Based on the premise that “Your Health Data Has Power”, this study is just one of the many ways iConquerMS is facilitating and accelerating research on topics of importance to people affected by MS.

**Repository Spotlight - Dr. Tom Aune, Vanderbilt University**

The identification of biomarkers characteristic of MS may aid in its diagnosis. Diagnosis in early stages of the disease would be facilitated by an accurate blood test. This is key to timely initiation of treatment in order to minimize disease progression and onset of disability. Dr. Aune is studying gene expression (specifically, transcriptional changes) in subjects with MS and healthy controls. His research is focused on individual biomarkers that may provide insight into abnormal gene expression seen in MS. Dr. Aune’s previous work has already resulted in a simple *in vitro* diagnostic blood test for MS with high sensitivity and specificity. This approach may have diagnostic utility not only for MS but also for other clinically complex diseases. Dr. Aune’s study is just one of more than one hundred studies using ACP Repository samples to advance and accelerate research into MS.
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