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# Twin Matters

Spring 2015 Volume XXIX

A Family Newsletter from the Mid-Atlantic Twin Registry

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## Dear MATR Community,

Greetings from Richmond, VA! With summer right around the corner, don't forget to pencil us in for Multiples Family Day at Kings Dominion on Saturday, June 20th. We would love to see all of your smiling faces there for a day of double the fun. We truly appreciate your support of our research studies and always enjoy the opportunity to see our twin families at our events! Keep an eye out for more details about study progress in our fall newsletter.

Warm Regards,

Judy Silberg, PhD  
MATR Scientific Director

## We Are Identical!

Rebecca (Becky) and Emily Turners' story, as told by Becky:

After trying unsuccessfully to get pregnant, our parents sought help from a fertility specialist. They never did IVE, but my mom was on various cocktails of hyper ovulation drugs for four years before she finally got pregnant with us. So, when the ultrasound showed twins, it wasn't much of a surprise, given the higher chance of fraternal twins, and that's what the doctor told them. Two placentas\* at birth added to the fraternal evidence, and I really think our parents were so happy to have us that they ignored our uncanny similarities and trusted the doctor's word. We were into the same things growing up and hit milestones within days of one another, but it never crossed my mind that we were anything but fraternal, given the fertility assistance and, albeit small, differences between us.

Today, Emily and I are both juniors at UNC Chapel Hill, with her in nursing and me studying biology. I took a genetics course last fall, which is what prompted me to question our zygosity, as many of the recessive traits Emily and I perfectly share are not matched in either of our parents (blonde hair, blue eyes, etc.). The evidence was great enough to cause us to seek out testing and, sure enough, we are identical!

### \*The Case of Mistaken Zygosity:

The medical community in the past (even the recent past) used to assume that two placentas always meant twins were fraternal, but the medical community now knows (or should) that approximately 25 to 30% of identical twins have two separate placentas, which occurs when the fertilized egg splits very soon after fertilization. A 2004 survey completed by the American College of Obstetricians and Gynecologists(1), showed the good news that 81% of doctors knew correctly that two chorions (the outer placental sac) does not always mean twins are fraternal, but it also showed that 15% still thought incorrectly that two chorions meant that the twin pair was fraternal. In short, approximately 15% of the time the doctors might have given

misinformation to parents about a twin pair's zygosity based on how the placenta looked. Though this has probably improved since 2004, it's likely that there are still some healthcare professionals that are confused about this point, because the majority of the time two placentas is suggestive of fraternal twins. So, it's understandable how the misinformation continues to be shared.

1-Cleary-Goldman, Jane MD \*; Morgan, Maria A. PhD +; Robinson, Julian N. MD ++; D'Alton, Mary E. MD \*; Schulkin, Jay PhD. Multiple Pregnancy: Knowledge and Practice Patterns of Obstetricians and Gynecologists. Obstetrics & Gynecology. 104(2):232-237, August 2004

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## We Value You.

The Mid-Atlantic Twin Registry (MATR) values its participants. If you have feedback regarding your experiences with MATR staff or research staff for any study, please do not hesitate to send us an email to [matr@vcu.edu](mailto:matr@vcu.edu), call 1-800-URA-TWIN (1-800-872-8946) or call our Participant Coordinator, Carol Williams, at 804-828-8116.

## Raffle Drawing Recipients Announced!

Two of the MATR's recently mailed surveys provided our twins with an entry into a raffle when they returned the survey by the set due date. The MATR would like to thank and congratulate the lucky two whose names were selected in the raffle drawings:

- Marcie Wright, MATR member since 1986, was the lucky recipient of an Apple iPad Air. She says "I enjoy seeing the studies done. . . Thank you for taking an interest in twinship!"
- Victoria Szuflita, MATR member since 2013, was the lucky recipient of a \$250 gift card. She says "I love being able to help with research and MATR always has such a diverse and interesting collection of studies. I am so happy to be the raffle recipient!"

A big thank you to everyone who took part in these surveys!

## Multiples Family Day 2015

Start your summer by connecting with other families of twins, triplets and more, for photos, contests, and lots of fun!

Join the MATR staff from 10am-4pm for Multiples Family Day on Saturday, June 20th, 2015 at Kings Dominion in Doswell, VA (right off I-95 between Richmond, VA and Washington, DC)

Watch our website ([www.matr.vcu.edu](http://www.matr.vcu.edu)) for the link to purchase tickets. Discount tickets will be sold **online only**; this price **will not** be available at the park.

The MATR is grateful to Kings Dominion for allowing us this opportunity to say "Thank You" for your participation in the MATR. We look forward to seeing you, your family, and friends at the park!







### Quaternary Marriages

Given how close twins can be, it seems only natural that they sometimes end up marrying another set of twins. The official term for these marriages is “quaternary marriages.” There are only about 250 instances of quaternary marriages in the world - so they are very unique!

As you can imagine, when the couples in the quaternary marriages have children, the genetic similarities of the children can get really interesting! Keep in mind that a pair of identical twins are considered genetically identical, whereas a pair of fraternal twins have about 50% identical DNA - as much as full siblings.

When a pair of identical twins marries another pair of identical twins, their children are actually full genetic siblings. This is an oddity of genetics that only occurs when identical twins marry identical twins.

When a pair of identical twins marries a pair of fraternal twins, their children are genetic half-siblings.

We’d love to know if any of our MATR twins are married to another set of twins. If so, please contact us!

### Got photos?

If so, please send them in! We love to see pictures of our twins (triplets, etc.) and we are looking to add to the photo album on our website. Simply go to **go.vcu.edu/matrphoto**.

### Adolescent & Young Adult Twin Study (AYATS) New Study opportunity for adolescent and young adult twins...

Researchers at VCU’s Department of Psychiatry are working on a study funded by the National Institutes of Health in hopes of learning more about how certain conditions, such as anxiety and depression develop.

- Participants the study will need include:**
- Generally healthy MATR twin *pairs* (Caucasians, 16 through 19 years old)
  - Twin pairs, including the young adult twins, need to be living full-time at home with their parent(s)
  - One or both parents (or legal guardians) of the twin pair

- Study participation involves:**
- Parent/Guardian of adolescent twins or the adult twins (18+) completing a phone call (approximately 20 minutes) with a MATR Interviewer. This phone call will include some questions to collect basic study data and ask permission for the study to contact the parent or young adult twins directly
  - Both members of the twin pair (for adolescent twins this includes at least one of the parents/guardians) completing an appointment at VCU in Richmond, VA to complete study tasks and questionnaires
  - Optional online survey to be completed by parents
  - Financial compensation will be provided by the study

### Juvenile Anxiety Study (JAS) New Study opportunity for juvenile twins...

Researchers at VCU’s Department of Psychiatry and Mid-Atlantic Twin Registry (MATR) are working with the National Institutes of Health in hopes of learning more about how certain conditions, such as anxiety and depression develop.

- Participants the study will need include:**
- Generally healthy Caucasian twin *pairs* (9 through 13 years old)
  - One or both parents (or legal guardians) of the twin pair

- Study participation involves:**
- Parent/Guardian completing a phone call (approximately 20 minutes) with a MATR Research Interviewer. This phone call will include some questions to collect basic study data and ask permission for the study to contact the parent/guardian directly
  - Both members of the twin pair and at least one of the parents/guardians attending an appointment at the Study Research Center at VCU in Richmond, VA to complete study tasks and questionnaires
  - Optional online survey to be completed by parents
  - Financial compensation will be provided by the study

**If Interested:**

Contact the *Mid-Atlantic Twin Registry* (MATR) and let us know that you want to learn more about the **Adolescent & Young Adult Twin Study (AYATS)** or the **Juvenile Anxiety Study (JAS)**. Please let us know the full names and DOB of the twin pair. Parents, please provide your full name as well. You can reach us at:

- 1-800-URA-TWIN (1-800-872-8946) toll-free
- [matr@vcu.edu](mailto:matr@vcu.edu)
- [www.matr.vcu.edu](http://www.matr.vcu.edu); click “Contact MATR”

### Update your info!

Remember to let us know if your name, address, email, or telephone number changes by visiting the Update Your Contact Info section of our website at [go.vcu.edu/twinupdate](http://go.vcu.edu/twinupdate) or calling our toll free number 1-800-URA-TWIN.

## The Genetics of Twinning

Often twins and their families are curious about whether or not having twins runs in families. There are multiple factors that can play a role in twinning. For example, the older a woman is, the more likely she is to have twins. While there are still many unanswered questions regarding the genetics of twinning, there is a known genetic and family history cause for some cases of twinning: hyper-ovulation. As you are probably aware, ovulation is the stage in the female reproductive cycle during which an egg is released and becomes available for fertilization. Typically, during ovulation a single egg is released. However, during hyper-ovulation, multiple eggs are released. Having multiple eggs available for fertilization greatly increases the chance of conceiving fraternal twins. In essence many fertility treatments induce hyper-ovulation, plus as a woman ages she is more likely to hyper-ovulate, which is why we see an increase in twinning in these instances. In some cases, there is a gene inherited that increases the chances of hyper-ovulation occurring. Women carrying this gene have an increased likelihood of having fraternal twins.

Because ovulation is specific only to the female reproductive cycle, hyper-ovulation is only expressed in women. This means that while some men may carry the gene for hyper-ovulation, a family history of twins doesn’t make them more likely to have twins themselves. However these men can pass this trait on to their daughters through their genes, so that their daughters may be more likely to hyper-ovulate. This is frequently why it seems as if twinning “skips” a generation. For instance, if someone’s grandparents had fraternal twin sons due to hyper-ovulation, and those sons had singleton (non-twin) daughters that possibly inherited the hyper-ovulation gene, then those daughters would be more likely to have twins.

You might be wondering, what about identical twins? Though research has been done to learn more about the possible genetics of identical twinning, currently there is little to suggest that having identical twins is anything more than a random event. Identical twins occur when a fertilized egg splits and develops into multiple embryos. However, having identical twins in your family does not make you more likely to have twins yourself, or for your children to have twins. If you happen to have multiple sets of identical twins in your family, consider it a rarity!

## Study Snap Shots

Want to know how our studies are progressing? We’ve included some info below to keep you in the know! Feel free to contact us with any questions you might have.

**Juvenile Anxiety Study (JAS)**—we continue to recruit families for this study which is hoping for approximately 400 to 450 families to participate! If your family started with the study but you still need to schedule an appointment, please contact the JAS staff directly—you can schedule your appointment for the summer or ask that they call you during the summer for scheduling. They want to make it convenient for you! Also, as a heads-up, sometime this summer, they will no longer be able to make appointments for twins at the NIH site. If you were hoping to complete your appointment at the NIH, please keep that in mind and try to get on their calendar soon. If you don’t get to complete the appointment before the NIH site ends, you can still come to the VCU site for study participation.

**Adolescent & Young Adult Twin Study (AYATS)**—it’s now been a full year of recruitment for this study and we will continue recruiting through Spring 2016 (likely longer). While the general topic of interest is similar to the JAS study, this study focuses on a slightly older teen group (16 through 17) as well as young adults (18 & 19 and some 20+). Though it does include young adults, the study still needs both members of the pair to participate and both members of the pair still need to be living predominantly at home (this often still includes those in college) with their parents for initial recruitment. UPDATE: We may be inviting families with 15 year old twins to join in on the study as well. Stay tuned!

*If you are interested in learning more, feel free to check out the advertisements for the JAS and AYATS studies in this copy of Twin Matters.*

**Genetics of Healthy Aging (GHA) Study**—the MATR has finished recruiting new participants for this study and we are waiting for some of the participants to return their materials. If you’re a participant in this study and still have materials to complete, please feel free to complete them and send them in. Please contact the MATR if you have any questions or are unsure about what items you may still want to complete.

**Mood & Immune Regulation in Twins (MIRT)**— UPDATE—The MATR is going to continue recruitment of adult MZ pairs ages 40-70 years for this study. The study staff is still actively scheduling appointments. If you already completed your call with the MATR, then someone from the study staff should contact you soon to schedule your appointment if they haven’t already.

As always, a **BIG THANK YOU** to all those that have participated in our studies!

