

# Mentorship: Our Responsibility To Our Colleagues

James E. O'Brien, Jr, MD

Mentee of Dr. Thomas L. Spray

Co-Director, The Ward Family Heart Center

Chief, Cardiothoracic Surgery

Joseph Boon Gregg/Missouri Chair in Pediatric Cardiac surgery

Children's Mercy Hospital

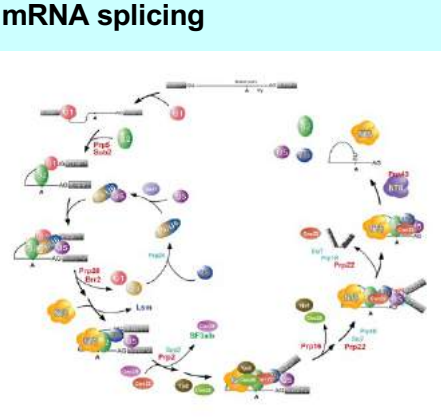
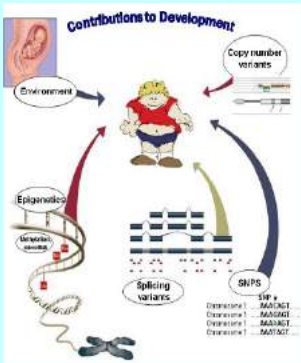
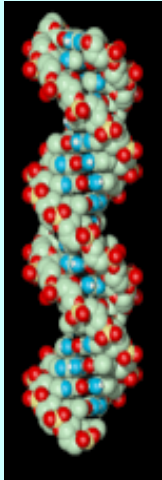
University of Missouri – Kansas City



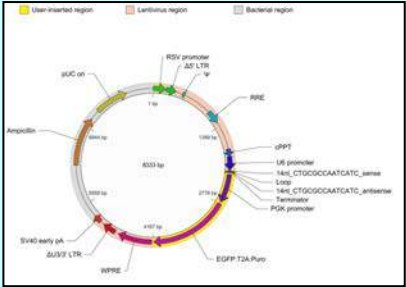




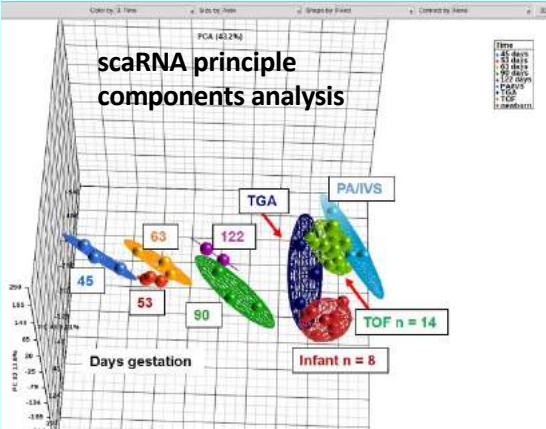
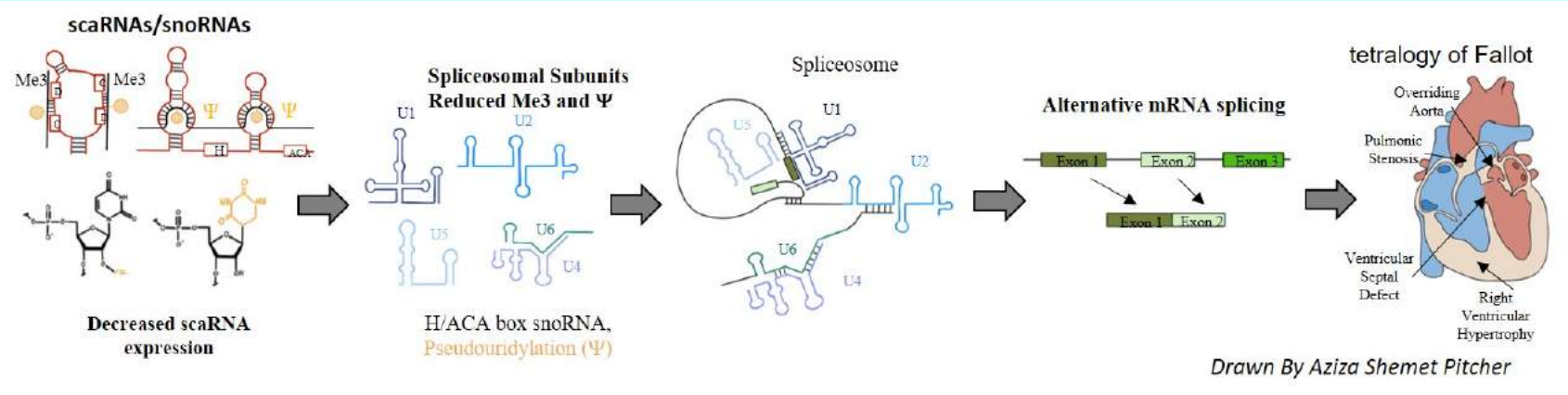
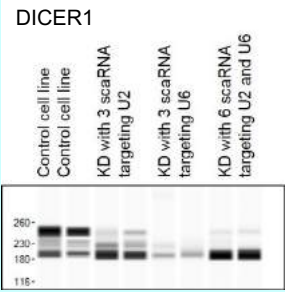
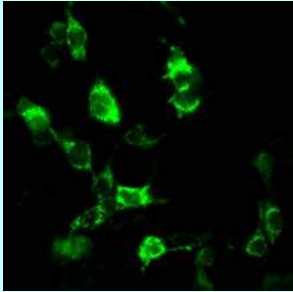
# Noncoding RNAs (scaRNAs) regulate the spliceosome and contribute to congenital heart defects



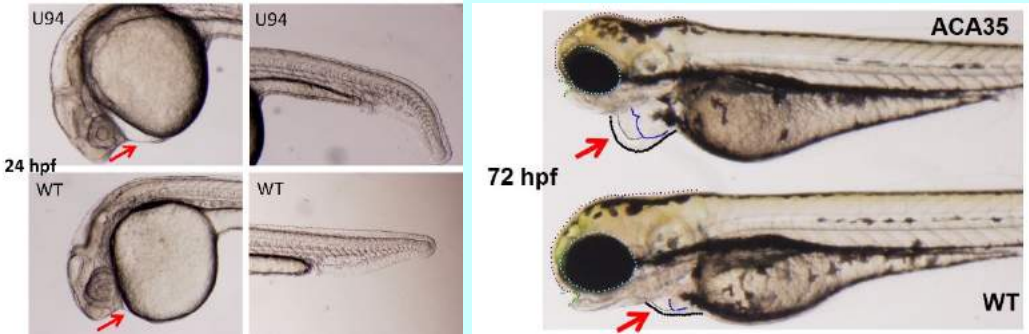
## shRNA expression construct for targeted knockdown of scaRNAs



## Genetically modified Human cells



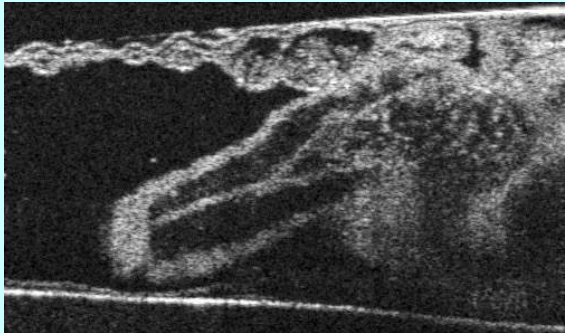
## Genetically modified Zebrafish embryos



## Cardiac organoids at ~2 weeks



## Quail embryos



Optical Coherence Tomography (OCT)  
220 image sequence captured over 7 seconds.



The red arrow indicates the slice and direction left to right of the image on the left.



# Mentorship in Congenital Heart Surgery

- Great responsibility to develop the next generation
- Need to provide opportunity *and inspire*
- Need to help guarantee the profession continues to thrive, improve, innovate and expand
- Focusing on those *early in their careers*.

# Evidence That We Might Not Be Doing Our Part

## *Society of Thoracic Surgery Congenital Workforce Survey*

- Median age 52
- Only 11% female
- Median duration in practice: 15 years
- Median time at current job: 5 years
- Median duration of training (after medical school) : 10 years
- 20% of early career congenital surgeons were dissatisfied with their careers. As opposed to no surgeons reporting dissatisfaction in 2015.
- “Future survey efforts....focus on modifiable factors contributing to career dissatisfaction”

# Evidence That We Might Not Be Doing Our Part

## Survey of recent ACGME Congenital Heart Surgery graduates

- Formalized mentorship identified as key
- Only 31% of training programs had a mentorship program
- 20% of graduates in their first 5 years of practice are no longer practicing congenital heart surgery
- Of those practicing, 33% felt practice did not live up to expectations
- Of those practicing, *33% felt poorly supported and poorly mentored*
- Lack of mentorship again identified as a dissatisfier

# Evidence That We Might Not Be Doing Our Part

## Attrition once completing training and entering the field

- 25-30%?
- Left early or middle of careers
- Multifactorial: Lack of jobs, change in interest, or lack of mentorship?



# Uniqueness of Congenital Cardiac Surgery

- Humble, quiet, accepting, forgiving, lovable.....
- Career with great rewards, but great risks
- High variety of cases, thus small number of each
- High visibility
  - Especially in freestanding children's hospitals
- Pressure
  - Internal
  - External (families, professional societies, colleagues, administration)
- Small practices
- Geographically dispersed



# New Era For Early Career Surgeons

- Outcomes at an all time high
- Expectations of cardiologists and families at an all time high
- Transparency; Public reporting
- Administrative pressure – outcomes, staffing, *productivity*

A magnifying glass with a silver rim and a black handle is positioned over a light green rectangular area. Inside the lens of the magnifying glass, the word "MENTORING" is written in a bold, blue, sans-serif font.

# MENTORING

# The “Science” of Mentoring

- “Striking high rates of anxiety and depression” among those in training and early in careers
- Take cues from Research on Parent-Child Relationships
  - Authoritativeness – both high expectations high attentiveness
  - Safe Haven – comfort with discussing problems
  - Fostering a secure base – promotes risk taking, discovery
- Convey belief in abilities and potential
  - Belief that one’s abilities are malleable rather than fixed
- Help mentees embrace failure as growth
  - Acknowledge the challenges (i.e. failures) you have had along the way

Van Bavel et. al., *Science*, 2019

# Different Mentoring Roles

- Traditional Mentor
  - Aimed at promoting career growth of both mentor and mentee
  - Requires trust, mutual respect, shared values, and effective, open communication.
  - A Professional Parenting Bond.
- The Coach
  - Focus on specific issue (writing, research methodology, job negotiations)
  - Can be more transient than traditional mentor
- The Sponsor
  - Use their influence to increase mentees visibility, provide opportunities
  - Risk their own reputation
  - Not necessarily visible to mentee
  - Especially important for underrepresented



# Different Mentoring Roles

- Connector
  - Networker
  - Not necessarily as close a relationship
  - Can be longitudinal relationship, or episodic

Assembling a diverse mentorship team is preferable. Rare individual who will possess all the characteristics – and time – to address all the mentees needs.

# Technical Mentoring Without Compromising Care – It's Possible!

## Multiple studies:

- Chaban et. al. Trainee performed CABGs
  - *Seminars in Thor and CV Surg, 2021*
- Braun group's study on resident performance of arterial switches
  - *Eur J of Cardiothor Surg, 2017*
- Cleveland et. al study on mixed congenital cases
  - *JTCVS, 2022*
- Carthy and de Level evaluation of surgical safety
  - The importance of behavioral factors and teams, not just technical skill
  - *Safety Science, 2003*

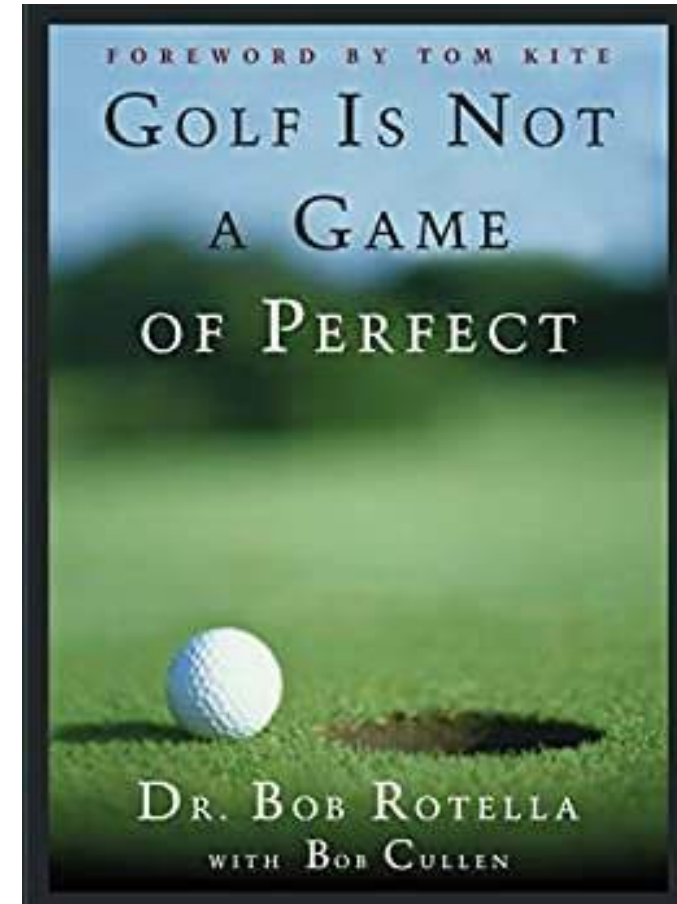
# Technical Mentoring Without Compromising Care

- Requires Trust
- Confidence in one's own ability
- Not all about cutting and sewing

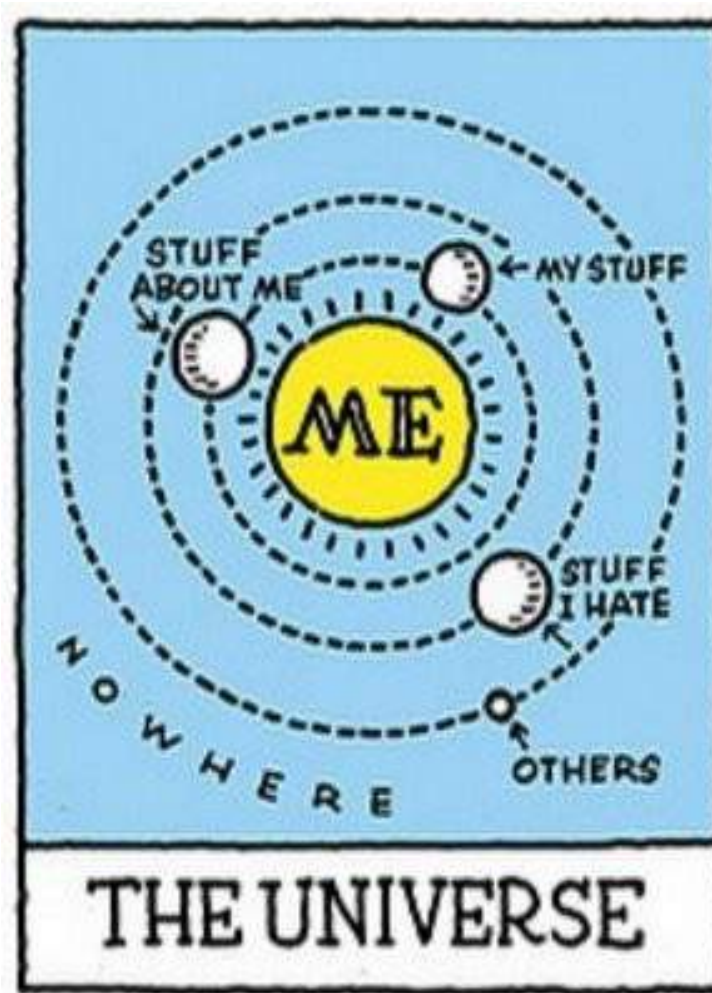
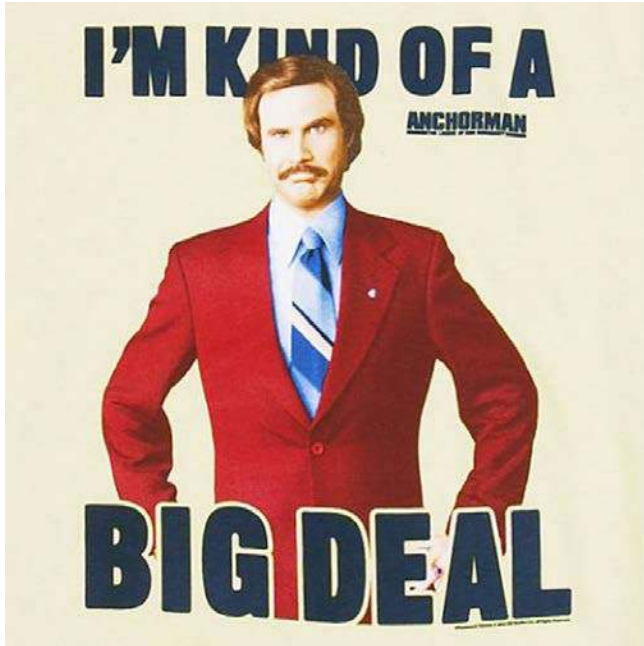
**Judgement comes  
from experience, and  
experience comes  
from bad judgement.**

Simon Bolivar

EVERYDAY POWER



# Cardiac Surgeons Have Egos??



# Behavioral and Collaborative Mentoring

- Professional Behavior
- Calm in the center of the storm
- Multidisciplinary approach is key to care of CHD
- “All politics is local”
- Humble and kind





# Four Golden Rules Of Menteeship

- Select the right mentor.....or mentors
  - Include personal attributes
- Be respectful of your mentor's time
  - Be prepared. Mentors are busy!
- Communicate efficiently and effectively
  - Keep cadence. Avoid email overload
- Be engaged, energizing, and collaborative
  - Fun to work with
  - Energy donor, not recipient

Chopra et. al., *BMJ*, 2016

# Support and Incentives for Mentoring Junior Faculty

- Hospital administrations need to realize the need for and benefit of mentorship
- Acknowledgement and credit for mentoring work, i.e. assisting at surgery. Not singular focus on productivity
- Add mentoring program to program benchmarks being developed for congenital heart centers

# Ongoing Professional Societal Efforts

- STS
  - STS Mentorship Program – Matches mentors and mentees
- AATS
  - Mentor honoring program
  - Member for a day
  - de Leval Fellowship
- CHSS
  - Developing programs specifically aimed at mentorship and *sponsorship* of women

# We Need To Take Responsibility.... *and Initiative*

- Personal initiative and commitment on the part of senior surgeons
- It's Hard – senior surgeons are busy
- Imperative part of our culture as congenital heart surgeons
- It is *rewarding*

Placement of our junior faculty, our programs, and ultimately the future care for children with CHD ahead of personal success. They are not mutually exclusive goals





# What Does Successful Mentoring Look Like?



