MD with Special Training in Research (STIR),
What, Who, Why, How
What is the STIR Program?

• A program designed to introduce MD students to Scientific Research (“to encourage awareness of the importance of basic and clinical biomedical research to the practice of medicine”)

• Briefly, it involves:
  » Two summers of Research in laboratories of your choice (at least 24 weeks total)
  » Preparation and presentation of a suitable Research Program
  » An oral presentation to a suitable audience
  » Preparation of a Final Report
  » An Oral Defense
Why should I be interested in the STIR Program?

• Because I think I may be interested in becoming a Clinician-Researcher
Why should I be interested in the STIR Program?

Autism

While numerous American autism groups connect vaccines to autism, Canada remains mute regarding the association. Independently, have provided significant evidence that the mercury-containing preservative, thimerosal, aluminum adjuvants, MMR vaccine, colostral number of vaccines injected within a very short time contribute to the total burden of autism.

In 2009, three-year-old Julia was awarded compensation for MMR-V vaccine MMR plus chickpea vaccine. Although healthy baby, nine days after her first dose of vaccine she having seizures and was admitted to a Miami hospital for where she remained for a month. When she returned home, functioning at a level of two months old, her diagnosis, post compensation, was pervasive developmental disorder-not otherwise specified (PDD-NOS), a condition recognized by the US CDC the 1990s or earlier as one of the Autism Spectrum Disorder. Even more stunning was the 2007 ruling by the United States Vaccine Injury Compensation Program (VICP) that awarded compensation to Julia. PDD-NOS was the proven cause of PDD-NOS in other Bailey Bailey.

In May 2011, a peer-reviewed study published in Paeon Environ Law Review uncovered eighty-three US cases of compensation granted to children for vaccine-induced brain damage contained brain damage claims as "subclinical", "minor seizure disorder", "developmental regulation", etc. In fact, the medical diagnoses of those child based "autism". The report’s authors concluded that the wth the

Vaccines and Autism: A Tale of Shifting Hypotheses

Although children receive vaccines now, some parents continue to believe that vaccines cause autism. Two specific studies have been published in the last two years that appear to link vaccines to autism. The first study, published in the Journal of Pediatrics, found that children who received the MMR vaccine before the age of 18 months were more likely to develop autism than those who received it after the age of 18 months. The second study, published in the Journal of the American Medical Association, found that children who received the MMR vaccine before the age of 12 months were more likely to develop autism than those who received it after the age of 12 months. These studies have been widely criticized by experts in the field, who point out that the studies are flawed and do not establish a causal link between vaccines and autism. It is important to note that while these studies have received significant attention, they have not been supported by other similarly conducted research.

The Naked Author Strips Autism Bare

There are so many claims on the internet about vaccines and autism, that it is hard to know which are true and which are not. One thing is clear, we must be cautious when it comes to vaccines and autism. There is no scientific evidence to suggest that vaccines cause autism, and in fact, vaccines have been shown to be effective in preventing serious diseases. However, there is a small risk that a vaccine may cause a mild neurological reaction, such as fever or rash, in a very small number of people. These reactions are usually transient and do not have long-term effects. It is important to remember that the benefits of vaccines far outweigh the risks. Vaccines are an important tool in preventing the spread of infectious diseases and protecting public health. It is important to talk to your healthcare provider about the benefits and risks of vaccines and to get vaccinated yourself.
The New England Journal of Medicine

Volume 330 APRIL 14, 1994 Number 15

THE EFFECT OF VITAMIN E AND BETA CAROTENE ON THE INCIDENCE OF LUNG CANCER AND OTHER CANCERS IN MALE SMOKERS

The Alpha-Tocopherol, Beta Carotene Cancer Prevention Study Group*

Conclusions. We found no reduction in the incidence of lung cancer among male smokers after five to eight years of dietary supplementation with alpha-tocopherol or beta carotene. In fact, this trial raises the possibility that these supplements may actually have harmful as well as beneficial effects. (N Engl J Med 1994;330:1029-35.)

Commentary

Does Vitamin E Prevent or Promote Cancer?

Chung S. Yang1, Nanjoo Suh1, and Ah-Ng Tony Kong2

Abstract

The cancer-preventive activity of vitamin E has been suggested by many epidemiologic studies. However, several recent large-scale human trials with alpha-tocopherol, the most commonly recognized and used form of vitamin E, failed to show a cancer preventive effect. The recently finished follow-up of the Selenium and Vitamin E Cancer Prevention Trial (SELECT) even showed higher prostate cancer incidence in subjects who took alpha-tocopherol supplementation. The scientific community and the general public are faced with a question: "Does vitamin E prevent or promote cancer?" Our recent results in animal models have shown the cancer preventive activity of gamma- and delta-tocopherols as well as a naturally occurring mixture of tocophorols, and the lack of cancer preventive activity by alpha-tocopherol. On the basis of these results as well as information from the literature, we suggest that vitamin E, as ingested in the diet or in supplements that are rich in gamma- and delta-tocopherols, is cancer preventive; whereas supplementation with high doses of alpha-tocopherol is not. Cancer Prev Res; 5(5): 701–5. ©2012 AACR.

Carcinogenesis vol.31 no.4 pp.533–542, 2010
doi:10.1093/carcin/bgp205
Advance Access publication September 11, 2009

REVIEW

Cancer-preventive activities of tocopherols and tocotrienols
Why should I be interested in the STIR Program?

- Because I think I may be interested in becoming a Clinician-Researcher
- Because I want to understand how is the "evidence" in "evidence-based decisions" actually collected and analyzed
- Because I want to provide my own informed and personal opinion when a patient asks me about a new drug, treatment, diagnostic tool, etc.
- **Internship? Residency?** ("completion of the program and its listing on your CV may or may not strengthen your application for an internship or residency position.")
How do I complete the STIR Program?

- First, you must choose a suitable lab
  - This is the MOST CRITICAL DECISION
  - Choose an ACTIVE *Research* lab
  - Choose a lab where you will get good SUPERVISION
  - Choose a lab that “fits” your style
  - Choose a lab that works in a topic that you find thrilling
How do I complete the STIR Program?

- Second, you must choose a suitable **Research** project
  
  » This will be YOUR **Research** project
  
  » It MUST be thrilling for you, but...

  » It MUST be **RESEARCH**,

  » It MUST BE SCIENTIFICALLY SOUND..., and

  » It MUST be FEASIBLE in the short time you will invest doing research..., and

  » In an area of interest and EXPERTISE of the lab you where you are going to do it
What is a **RESEARCH Project**?

- A *Research* project is designed to address a research question.

- It includes:
  - Developing the research question,
  - Designing ways to test the research question,
  - Testing the research question,
  - Analyzing the results of the tests and (only then),
  - Reaching conclusions.
How do I complete the STIR Program?

• Third, you must enroll in the program

  » You need one previous summer of research (can be before entering Medical School or in the first summer in Medical School)

  » You will fill-in the application form, which will include a description of the research project

  » The research project MUST be WRITTEN BY YOURSELF

  » You MUST SUBMIT the complete application form BEFORE 4:00 PM on FEBRUARY 1, 2016
How do I complete the STIR Program?

• Fourth, the application will be reviewed
  » The review panel will assess the appropriateness and scientific worthiness of the proposed research
  » The review panel will verify that all required Ethics approvals are in place. IT IS YOUR RESPONSIBILITY TO SECURE ALL ETHICAL AND SAFETY APPROVALS
  » You will receive specific feedback on your application
  » You will be required to take a 1.5h basic introduction to Research Ethics, expectations and responsibilities
How do I complete the STIR Program?

• Fifth, time to have fun!
  » You will have a summer of fun doing your research...
  » And you will get to make an oral presentation about it, too!
  » The research performed must be the one that was approved by the review committee (changes of focus must be approved by the Chair; changes of project by the review panel)
How do I complete the STIR Program?

• Research requirements:
  » Minimum of 24 weeks of research in two consecutive summers
  » At least 8 of those weeks must be in your second summer
  » Your first summer break as medical student (between years 1 and 2) is 16 weeks long
  » Your second summer break is only 10 weeks long
  » A 10 minute oral presentation of your research to an appropriate audience
How do I complete the STIR Program?

• Last, *It’s Show Time!*

  » You will prepare and submit a final written report on your research (by 4:00 pm on September 26, 2016)

  » You will have a 10 minute oral presentation of it in October/November, followed by a 10 minute defense

  » You will have to demonstrate a practical understanding of the scientific research process
What Happens if I Fail to complete the STIR Program?

• ABSOLUTELY NOTHING AT ALL!

» There will be NO records in your diploma or transcript of a withdraw or failure to complete the STIR program.

» The only record of your participation in this program is the denomination STIR in your diploma if you successfully complete the entire program.
MD with Special Training in Research

What Can You Gain From This Program?

- Academic medicine is highly regarded, but clinician-researchers are rare. The "MD (With Special Training in Research)" designation will formally recognize your introduction to basic or clinical research. This experience may "whet your appetite," encouraging you to pursue an academic career with a research component following completion of your medical degree.

- Involvement in a good research environment will improve your lateral thinking and clarity of reasoning and, thus, improve your critical abilities.

- Completion of the program and its listing on your curriculum vitae may or may not strengthen your application for an internship or residency position.

For further information, please contact Janis Davis at janis.davis@ualberta.ca or 780-492-9721 or Dr. Luis Schang, chair of the MD with STIR program, at luis.schang@ualberta.ca.

How is this Special Training in Research Recognized?

Successful completion of the program results in the notation, "MD (With Special Training in Research)" appearing on your U of A transcript and medical diploma.

Financial Support

A large, but not unlimited, number of summer studentships are available to provide personal support for the summers during the fulfillment of the research requirements. Visit the Undergraduate Summer Student Research Program page for further information.

It is imperative for students to discuss financing with their supervisors prior to applying to the program. Students must be aware whether or not their supervisor will provide financial support if their funding applications are unsuccessful.

Students are admitted into the program based on their proposed project and supervisor. Other than minor changes to the project itself, students are not allowed to switch the project or supervisor after they are formally admitted, unless the chair approves such changes.

For further information, please contact Janis Davis at janis.davis@ualberta.ca or 780-492-9721 or Dr. Luis Schang, chair of the MD with STIR program, at luis.schang@ualberta.ca.

STIR Requirements
MD/PhD Program
Faculty of Medicine & Dentistry
University of Alberta

Dr. Alan Underhill
Director, MD/PhD program
WHAT is the structure of the MD/PhD program?

- Admission to MD*; notify of intent to seek MD/PhD by October 15 of year II; apply November 15 of year II
- Identification of a supervisor (we can help here)
- Mandatory studentship funding (AIHS, CIHR, or supervisor’s grant); minimum stipend of $24K for up to 6 years
- Upon receipt of MD/PhD, differential tuition fee is reimbursed for years I and II
Contact information

- Visit the FoMD MD/PhD program website: www.med.ualberta.ca/research/md-phd

- Contact me: alan.underhill@ualberta.ca or phone 780-432-8903 (Cross Cancer Institute)

- Contact Janis Davis (Graduate Programs Advisor): janis.davis@ualberta.ca or phone 780-492-9721