Important Dates

11/12 Fall 2019 Rotation Begins
11/19 Recruitment Committee Applications Open
11/21 Extension Request Form Deadline
11/22-11/23 Thanksgiving Holiday
11/25 Preferences Sign Up Open
11/25 Recruitment Committee Applications Deadline
12/01 Admissions Committee Applications Open
12/02-12/10 Hanukkah
12/08 Admissions Committee Application
12/09 Preferences Sign Up Close
12/12-12/25 Christmas Holiday
12/26-1/09 Kwanza
12/31-1/01 New Years Holiday
1/02 UCLA Winter Quarter Begins
1/07 UCLA Winter Quarter Classes Begin
1/08-1/09 Prospective Care Extender Orientations
1/13 Winter Department Assignments and Meeting Information Posted
1/15-1/16 Prospective Care Extender Interviews
1/21 Martin Luther King Jr. Holiday
2/04 DCA Applications Open
2/07 New CE Check in Day
2/10 Training Day and Department Meetings
2/16 DCA Applications Deadline
2/17 Last Day of Fall Rotation

Be sure to follow the Care Extenders Program on our FACEBOOK account!
Researchers from the Elli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at University of California, Los Angeles have discovered how high glucose levels prevent heart cells from maturing normally. These findings can be applied to explain why babies born to women with diabetes are more likely to develop congenital heart disease. The Effect of Glucose on Cardiac Muscle study was developed by an U.C.L.A. Associate Professor Atsushi Nakano who works in the Molecular Cell, and Developmental Biology Department.

Nakano’s team found that when developing heart cells are exposed to high levels of glucose, the cells generate more building blocks of deoxyribonucleic acid (DNA) than usual which leads to the reproduction rather than the maturation of the cells. In order to conduct their research, Nakano and his colleagues used human embryonic stem cells to grow heart cells. Congenital heart disease affects nearly 1 in 100 children born in the United States making it the most common birth defect. The severity of the symptoms it causes varies, ranging from a slightly weakened heart muscle and no symptoms to severe heart deformations that require surgery.

Nakano believes that the findings can lead to better methods of making cardiomyocytes from stem cells. The current protocol for generating cardiomyocytes in the lab leads to immature cells. However, by targeting the pentose phosphate pathway it can be feasible to generate more mature cells which can then be utilized to regenerate heart cells for research purposes.

A study done by the National Institute of Health, compared the long-term effects of blood glucose levels in mothers who would have met the new definition of gestational diabetes with those who did not. Professor Kesavan, the prime investigator of the study, aspired to learn about the impact made by a
a modest increase in blood glucose. The researchers compared magnetic resonance imaging scans of newborns.

The results of the study suggested that among women with elevated blood glucose levels during pregnancy nearly 11 percent had type 2 diabetes 10-14 years after childbirth and about 42 percent were diagnosed as prediabetic. The researchers also analyzed the long-term effect of elevated blood glucose levels during pregnancy on the child. Through the analysis of Body Mass Index (B.M.I.) which measures body fat percentage, skin fold thickness, and waist circumference, it was suggested that all children born from mothers with elevated glucose levels were more likely to be obese.

Furthermore, it is also suggested that gestational diabetes can lead to a larger newborn causing delivery issues for both the mother and the child. The increased size also leads to the likelihood of a Cesarean section, high blood pressure, and hypoglycemia (low blood sugar).

All women are screened for gestational diabetes around weeks 24 - 28 of pregnancy. Healthcare providers strictly monitoring the blood glucose levels of pregnant women with gestational diabetes. This is often done by having mothers measure their blood sugar at home, take their insulin as prescribed, and monitor their weight. Healthcare providers will also monitor the blood glucose levels of the newborn through a heel stick, or umbilical catheter. The researchers of the study are further investigating the causes and effects of gestational diabetes. Many studies have grown to consider the lifestyle choices such as sleep duration, smoking habits, maternal B.M.I. and their role not only in the development of gestational diabetes but the implications of the factors on the newborn. Through these studies, researchers aspire to gain a better perspective and treatment for gestational diabetes.

“More nutrition is generally through to be better for the cells, but here we see the exact opposite. By depleting glucose at the right point in development, we can limit the proliferation of the cells, which coaxes them to mature and makes the heart muscle stronger”

-Atushi Nakano- Associate Professor of Molecular Cell and Developmental Biology

Magnetic resonance imaging scans of two babies at ten weeks old. The child on the left was born to a healthy mother, while the child on the right was born to a mother with gestational diabetes. The white area on the outside of the body is fat tissue and the large white circle in the body is milk in the stomach.

Photo courtesy: Imperial College London
The fall season comes with the onset of the yearly flu. Parents and children are encouraged to gain vaccinations against the yearly strain of influenza. For the 2018-2019 flu season, the Advisory Committee on Immunization Practices (A.C.I.P.) has recommended that everyone 6 months and older receive an annual influenza vaccination. Furthermore, according to the Centers for Disease Control and prevention (C.D.C.), you can spread the flu to other individuals up to six feet away by sneezing, coughing, or just engaging in a conversation. The flu can also be passed on to other individuals before one even experiences the symptoms of the flu. An important concept to consider this flu season is community immunity. Community immunity also known as herd immunity is a form of indirect protection form infectious disease that occurs when a large percentage of a population has become immune to an infection. This provides a means of protection for individuals who may not be immune to the infectious disease. The concepts works on the basis that in a population in which a large number of individuals are immune, chains of infection are likely to disrupted which in turn impedes and can even halt the spread of disease.

Dr. March Lipsitch of the Harvard School of Public Health has investigated further into the concept of community immunity and have utilized mathematical formulas and computers to develop models which can predict what proportion of the population needs to be vaccinated in order to eliminate the spread of a disease. The C.D.C. set the lowest threshold of vaccine coverage at 75 percent (for mumps) and the highest at 94 percent (for measles). Dr. Lipsitch also states that newborns, pregnant women, or people whose immune systems are weakened may not be eligible for certain vaccines. Yet through the community immunity they will gain the Community Immunity banner courtesy: www.cchealth.org
opportunity to gain some protection from the spread of contagious disease as the growth of the disease will be halted by the community before the disease effects these individuals.

Tae Hyong Kim, a researcher from McMaster University, conducted a study where he researched the effects of trivalent influenza vaccine in correlation with the vaccine herd effect. The study showcased that implementing the herd effect of the seasonal influenzas will potentially further protect vulnerable populations from influenza. The study contributed to the conclusion that vaccine herd effects are increasing in both quantity and quality. In addition the study was the first in the community being studied to utilize a laboratory confirmed diagnosis with a large number of participants.

A popular example of community immunity is the smallpox. In the 1970s the global community gained enough immunity to eliminate the spread of smallpox. The worldwide vaccination campaign allowed for the immunization of enough individuals that the disease could no longer sustain itself. Similarly, studies tracking the progress of the infant vaccination against Hemophilus influenzae type b lowered the risk of disease in the whole population. It was stated that before the vaccine Hib struck about 1 in 200 children younger than age 5. After the Hib vaccine was introduced in the mid-1980’s, it was found that the incidence of Hib dropped by 99 percent.

Although community immunity offer promising results for the eradication of infectious diseases, the problem lies within the disparity of immunization resources within communities. Current global vaccination production is yet far from able to meet the basic needs for pandemic vaccine, but production capacity has recently extended to a broader region. Researchers are hopeful as the global immunization community increases in size, global immunity will also be strengthened as well.
Every year the University of California, Los Angeles Auxiliary foundation sponsors the UCLA health auxiliary scholarship. The award is made possible by the generosity of the UCLA Health Auxiliary sponsors. The UCLA Health Auxiliary is a non-profit organization that provides monetary support for special programs and projects that benefit patients, patient families and the UCLA Health system staff.

The scholarship is open to UCLA health volunteers that have completed a total of 150 service hours in a calendar year. The hours are measured from January to December. Eligible applicants are emailed about their eligibility for the scholarship in January. The application period starts from January and generally lasts until April. The application process consists of submitting a complete application which will be available on the scholarship website, getting a letter of recommendation (or a recommendation form) and submitting a school transcript.

Upon revision of the application, in April some applicants are then selected for an interview. The selected applicants interview with the Auxiliary Judging Panel. After interviews have been conducted, applicants are contacted in mid-April about their selection status for the scholarship. The scholarship receivers are invited to a luncheon that takes place in May. The luncheon is an inspirational event, as students share stories about overcoming adversities and achieving excellence. The scholarship awards start at 1,000 dollars and winners are emailed information about their award amount.

This is a great opportunity for all UCLA health volunteers that continues to make a difference in healthcare through their dedication to service.
The best way to read and understand research article is by practice. It is recommended to read an article weekly. This allows readers to build reading speed and strengthen data interpretation skills. Furthermore, the skill is not only useful to better understand scientific development but can also aid one in writing their own research paper. As a reader begins to become familiar with the components of the research paper, the reader can begin to recognize which sections they can easily interpret, and which section require more critical thinking. Studies have also shown that the practice of reading research journals leads to a better understand of the subject that is discussed. In addition, the habit of reading greatly strengthens critical reading and data interpretation skills that can aid undergraduates in standardized tests such as the Graduate Record Examinations (G.R.E.) and the MCAT (Medical College Admissions Test). Popular science research journals include the *Frontiers in Neuroscience* and *PLOS One*.

**Anatomy of a scientific paper**

- **TITLE**: A summary of the study and findings, written by the author.
- **ABSTRACT**: A statement of what is currently known about the study subject that articulates the questions being investigated. It cites other scholarly works, lays the foundations for the study, and sometimes states a hypothesis to be tested.
- **INTRODUCTION**: A description of the research conducted and the results obtained.
- **RESULTS**: Results are presented as tables, large datasets, and figures, which can include graphics, videos, diagrams, and photographs.
- **DISCUSSION**: An analysis and interpretation of the data presented that integrates the new information with prior findings, states the implications of the work, and sometimes generates new hypotheses to be tested.
- **METHODS**: A description of how the studies were conducted, with sufficient detail so that others can repeat them exactly.
- **REFERENCES**: The list of the articles cited in the paper that provide information on the research topic and the methods used.

**Tips on reading a scientific journal**

- **How to read a journal article**: When you’re pressed for time
  - Stay calm: this happens to the best of them.
  - Get a pen and paper.
  - First things first.
  - Think of a story, you need to know the main character and the main event in the story.
  - Findings/ Discussion
    - What is the main problem in the paper?
    - What do you need to think about before reading the conclusion?
  - Conclusion
    - The main points and conclusions arguments.

- **Tips on reading an journal article infographic provided by**: witsvuvuzela.com
Reading and understanding a scientific research paper is a skill that is essential not only at the graduate level but also at the undergraduate level of study. The sections of a scientific research paper allow us to better understand the phenomena being discussed through the platform of data and analysis. Furthermore, the skill works to strengthen one’s critical reasoning and analytical skills which are beginning to be tested in not only in research but also standardized testing such as the M.C.A.T. and G.R.E.

In order to better understand a research paper, it is pivotal to dissect the article into its individual components. A primary research article is divided into the following sections: abstract, introduction, methods, results, and conclusions.

The abstract section serves to be a short summary of the research paper as it provides a brief background to paper’s topic, describes the major findings of the paper and relates these findings to the field of the study. Often the abstract is utilized to gain a quick understanding of the paper as it has a strict word limit and is usually written last by the author of the paper.

The introduction serves a stepping stone into the topic that is explored in the research article. This section begins by introducing the broad overall topic and provides basic background information. As the section progresses it tends to specify the specific research question that is being investigated in the research paper. The section usually concludes with the purpose and focus for the rest of the paper and establishes the justification for the research that was done.

The research article will then progress to the methods and results section. The methods section will often describe the research design and methodology used to complete the study. The section is written in an amount of details that would allow the reader to replicate the study if desired. The results sections present that data that was collected from the experiment. Often times this area of the paper will hold tables, graphs, and figures on which data was organized as well as key values of in the data.

The discussion and conclusion sections serve to interpret the results gained from the data. Often times the discussion section illustrates the implications of the findings. This section also serves to answers and proves/disproves the hypothesis based on the interpretation of results. The conclusion section explains relevance of the findings to other studies, any cautions about the findings and potential for future research.

Lastly, the references section serves to credit the academic sources of information utilized in the paper. This section is particularly important in finding more information about the research topic of the paper.

How Old You Feel Poll

Tell us about what kind of research journals you like to read at:

Care Extender Poll

Stay tuned for the Winter Newsletter to see what kind of research journals your fellow Care Extenders are reading!
Care Extenders of the Rotation

Thank you! We appreciate your service and recognize your outstanding performance and dedication to the Care Extender Program!

**ROANALD REAGAN MEDICAL CENTER**

- **7 East**
  - Khadija Siddiqua

- **Greeters B**
  - Parminder Ghotra

- **Post-Partum**
  - Rachel Wile
  - Hazel Batac

**SANTA MONICA MEDICAL CENTER**

- **CCU**
  - Jessica Beroukhim

- **ER-A**
  - Abigail Brand
  - Arielle Schwitkis

- **ER-B**
  - Luis A. Lopez
  - Louis Mayorga-Curson

- **Geriatrics**
  - Glenda Maramba

- **Greeters A**
  - Future-Hope Vand
  - Kristiene Recto

- **Orthopedics**
  - Daniel Oueis
  - Peter Tran

- **Surgery Center**
  - Shawn Schwartz

If nominated by your Department Coordinator as Care Extender of the Rotation two or more times, you will be eligible for a letter of recommendation! 😊