INSTITUTIONAL REVIEW BOARD (IRB) REVIEW FORM
FOR PROJECTS USING HUMAN SUBJECTS

Investigators are responsible for ensuring that the rights and welfare of human subjects participating in research activities are protected, and that methods used and information provided to gain subject consent are appropriate to the research. **The IRB will review only those assignments, activities, or investigations that are defined as research.** “Research” as defined by federal administrative bodies is “a systematic investigation designed to develop or contribute to generalizable knowledge” (45 CFR 46.102). Course projects whose primary intent and design are pedagogical, and are not originally intended to contribute to the general body of knowledge, are not normally subject to IRB review. However, it is the position of the IRB that the individual faculty member retains ethical responsibility for the proper conduct of such instructional studies.

**All the research activities involving the use of human beings as research subjects** (participants) must be reviewed and approved by the Elon University Institutional Review Board (IRB), unless the IRB chair determines that the research falls into one or more of the categories of exemption established by federal regulation. These categories include research conducted in commonly accepted educational settings involving normal educational practices such as research on regular and special education instructional strategies, research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. Also exempt is research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior. However, each category of exemption contains specific exceptions. Please note that only the IRB may make the determination if the research qualifies for exemption under Title 45 CFR 46.101.

Investigators may not solicit subject participation or begin data collection until they have received approval or written concurrence that research has been determined to be exempt from the Institutional Review Board.

Students may not serve as Principal Investigator on an IRB study and should work with their faculty mentor, instructor, etc as a Co-Investigator when submitting an IRB application.

Application forms are available on the Internet at [www.elon.edu/IRB](http://www.elon.edu/IRB). The form may be downloaded and completed but must be submitted in both electronic and hard copy due to signature requirements. If you have questions about the IRB application form or about the review process, contact:

Stephen Bailey
Chair, IRB
Phone: 278 6346 /E-mail: baileys@elon.edu

The Institutional Review Board generally meets on an ad hoc basis as proposals are submitted for review. Applicants must allow a minimum of 2 weeks for the review process. Allow for extra time if proposal is submitted during the summer or winter term. Proposals describing research that involves more than minimal risk to participants (any harm anticipated in the proposed research that is more probable or of greater magnitude than that ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests) will require a full review, which will occur during the monthly standing IRB meeting. Contact the IRB Chair for meeting times.
A notice of the IRB’s action will be sent to the researcher(s). It is the responsibility of the researcher(s) to see that the form is given to any agency which may require it.


**INSTRUCTIONS:**

Your responses to the 20 questions in the summary sheets that follow are basic to the Institutional Review Board’s determination about the protection of the rights and welfare of human subjects in your research. Your responses should be clear, complete, and easy to understand.

Place your *typewritten* response immediately under each question (not on a separate sheet). It is important that you answer every question. If you believe that a question does not apply to your research, enter a response such as “N/A” or “does not apply.”

Copies of the following must be included with this form:

1. The letter/script that will be used to inform participants of the nature of the research.
2. The informed consent template the subject(s) will sign (samples appropriate to behavioral and biomedical research are available at [www.elon.edu/IRB](http://www.elon.edu/IRB)).
3. Copies of surveys, instruments or measures, questionnaires, interview schedules, focus group questions and/or other materials used to collect data.

**Submit one complete hard copy and one digital copy (as a .docx or .pdf file, via e-mail or disk) to:**

Stephen Bailey  
Chair, IRB  
2085 CB  

(baileys@elon.edu)
<table>
<thead>
<tr>
<th>Research Project Title</th>
<th>Effects of concussions on cognitive function in athletes</th>
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</table>
| **Principal Investigator**  
*Note: Students cannot serve as PI*  
University Relationship:  
(Professor, Associate Professor, Assistant Professor, Instructor, Other (please specify))  
Associate Professor  
(“Other” categories may require prior approval.)  
Name (first, middle initial, last):  
Eric E Hall  
Department:  
Exercise Science  
Signature: Click here to enter text.  
Date: 07/28/09 |  
Campus Box/Phone:  
CB 2525/x5880  
E-mail:  
ehall@elon.edu  
Fax:  
336-278-5918 |
| **Co-Investigator**  
University Relationship:  
(Faculty, Staff, Graduate Student, Undergraduate Student, Other (please specify))  
Associate Professor |  
Name (first, middle initial, last):  
Stephen E. Folger  
Department:  
Physical Therapy Education  
Signature: Click here to enter text.  
Date: 07/28/2009 |  
Campus Box/Phone:  
CB 2085/x6347  
E-mail:  
folgers@elon.edu  
Fax:  
Click here to enter text. |

**Elon University**

**Elon IRB Review Form for Projects Using Human Participants (rev. 6/09), page 3**
<table>
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<tr>
<th><strong>Co-Investigator</strong></th>
<th>Name (first, middle initial, last):</th>
<th>Campus Box/Phone:</th>
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<tbody>
<tr>
<td>University Relationship: (Faculty, Staff, Graduate Student, Undergraduate Student, Other (please specify))</td>
<td>Walter R. Bixby</td>
<td>CB 2525/x5801</td>
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<tr>
<td>Associate Professor</td>
<td></td>
<td></td>
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<td>Department:</td>
<td>Exercise Science</td>
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<td>University Relationship: (Faculty, Staff, Graduate Student, Undergraduate Student, Other (please specify))</td>
<td>Paul C. Miller</td>
<td>CB 2525/x5882</td>
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<tr>
<td>Professor</td>
<td></td>
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<td>Department:</td>
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<tr>
<td>University Relationship: (Faculty, Staff, Graduate Student, Undergraduate Student, Other (please specify))</td>
<td>Kenneth Barnes</td>
<td>CB 2500/x6693</td>
</tr>
<tr>
<td>Director of Sports Medicine and Head Athletic Team Physician</td>
<td></td>
<td></td>
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<tr>
<td>Department:</td>
<td>Athletics</td>
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<td>Date:</td>
<td>7/28/09</td>
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E-mail: wbixby@elon.edu
Fax: Click here to enter text.

E-mail: millerp@elon.edu
Fax: Click here to enter text.

E-mail: Kbarnes7@elon.edu
Fax: 336-278-6616
INTRODUCTION TO THE PROPOSED RESEARCH

1. Provide the **date** when you propose to begin research and the date when you anticipate that research will be completed.

   Proposed start date:    July 2009     Anticipated completion date: July 2010

2. Indicate any source(s) of **funding** for the proposed research i.e., department funds or grants.

   We have received financial support from our dean. She has committed research funds for purchase of software and hardware for the study.

DESCRIPTION OF THE PROPOSED RESEARCH

3. Provide a brief (1 page or less) description of the **purpose** of your research.

   Concussions from athletic participation are a significant public health issue affecting about 1.6 to 3.8 million individuals. In recent years a software package called ImPACT™, the Immediate Post-Concussion Assessment Cognitive Testing, has been developed for Sports Medicine/Neuropsych trained specialists to evaluate symptoms and cognitive performance impairments that may result from concussions. However, little testing has examined the sensitivity of this software, especially in conjunction with other valid and reliable neuropsychological measures. The purpose of this study is twofold. First, we would like to examine ImPACT™ in conjunction with other valid neuropsychological measures. We will see if the different measures correlate with one another. We will also do a cross-sectional study to determine if there are differences in performance in those who have a history of concussion versus those that have no known history of concussion. The literature at this time is inconclusive on both of these matters. The second purpose of this study is to do a longitudinal assessment of student-athletes and to see how they perform on ImPACT™ as well as the neuropsychological assessments after having suffered a suspected concussion. This research has significant interest in public health in relationship to athletes, but also to military personnel who have been recently shown to be more likely to suffer from mild traumatic brain injury.

4. Indicate the **setting or location(s)** where research will be conducted. Attach letters of support or agreement, as necessary, showing that you have permission to conduct research at that location. If you are interacting with human subjects outside of the United States, describe what procedures are required to adhere to the human subjects mandates for the country where data collection will take place.

   Participants will complete all testing in the Exercise Science Lab located on the second floor of Koury Center, Room 243.

5. Does the proposed research require that you **deceive** participants in any way?

   ___ Yes    _X___ No

6. If your response is “yes,” describe the type of **deception** you will use, indicate why it is necessary for this study, and provide a copy of the debriefing script.

   Not applicable
7. Describe in detail what will happen to or be required of subjects in your investigation.  
(include a description of any instruments used, sample of questionnaires, focus group questions, etc.)

There will be two phases to our project. All participants will complete Phase I.

**Phase 1: Baseline data collection session** - The subjects will meet individually with one of the investigators and complete a consent form and baseline testing:

a) The subject will have time to read and sign the Consent Form and complete a short health status questionnaire
b) The subject will complete ImPACT™
c) The subject will undergo sensory testing protocol
d) The subject will undergo EEG recording and cognitive function assessment

**Phase 2: Post-concussion testing** - The athletic training staff will notify the team physician of any suspected concussion. The athletic training staff and/or team physician will then notify an investigator if any player suffers a suspected or known concussion injury. If the player has consented to be a part of this study, they will be contacted directly by one of the investigators and an effort will be made to retest (same protocol as described for baseline testing) the subject within 24-48 hours following the injury. Follow-up post-concussion testing will continue 1-2 times per week until the player returns to full playing status.

The data collected in this investigation will not be used to clinically assess the players or determine playing status for any study participants. To this end, the data will not be made available to the coaches or athletic training staff during the season.

**Testing Protocols**

1. **ImPACT**:  

Subjects will complete baseline and post-concussive testing using the Immediate Post-Concussion Assessment Cognitive Testing (ImPACT™) concussion management software (version 4.0; ImPACT™ Applications, Inc.; Pittsburgh, PA). This is a windows-based software program that collects and manages patient information in five domains: 1-Subject profile and health history questionnaire, 2-Current Symptoms and Conditions, 3-Neuropsychological Tests, 4-Injury Description, 5-Graphic Display of Data. The computer test is module-based, making it user friendly, and should take about 20 minutes to complete from start to finish. Subjects will complete this portion of the baseline data collection process in an isolated area to minimize and or eliminate auditory and visual distractions.

Subject Profile and health history information will be collected to identify demographic parameters such as height, weight, sport, position, concussion history/occurrence, history of learning disability and other neurological pathology. Current Symptoms and conditions will be reported by the participant indicating the date of the last concussion, hours of sleep, current medications, and severity of 22 symptoms based on the 2001 Vienna guidelines. Neuropsychological tests involve multiple methods for assessing function related to word discrimination, attention span, working memory and recall, response variability, non-verbal problem solving, and reaction time. There are six individual modules which specifically test word recall, visual picture discrimination, X’s and O’s distraction test, symbol matching, color matching, and three letter distraction test. The total symptom score as well as composite scores for verbal memory, visual memory, processing speed, reaction time, and impulse control will be computed and stored for graphical display within the participant’s individual profile. A higher score is desirable for the areas evaluating verbal memory, visual memory, and processing speed. A lower score is desirable for reaction time and impulse control. Graphical data representation will allow for easier comparison of baseline and multiple post-concussive testing results.
2. Sensory Testing Protocol

The subject will be seated with one arm resting comfortably on a small platform that positions their finger tips over the two stimulating probes of the portable sensory stimulator (CM-1, Cortical Metrics). Beanbags may be placed comfortably over or around the arm and hand to reduce inadvertent movement during the test. During each test one or two blunt (~5mm flat tip) stimulus probes will contact the skin on the back of the hand to deliver gentle (non-painful) single or multi-site stimulation. The probes will simply touch the skin or vibrate at a level that can be felt but is non painful.

For this study, each subject will participate in a series of sensory testing challenges over a 15-20 minute testing period. A single test will last ~3-5 minutes (~40-60 stimulus presentations/test) and require that the subject pay attention to and rate a specific feature of the stimulus by clicking a button on a computer mouse (or similar response device): For example, the subject may be asked to indicate whether they feel one or two stimuli, which stimulus is more intense or which stimulus seems to vibrate more (less) frequently. Instructions and a visual cue to respond during the test will be presented to the subject on a computer screen.

Each of the trials will consist of a short (0.1-1 second) test stimulus delivered via one or both probes followed by a longer inter-trial-interval during which the subject responds. The test stimulus will be preceded by a short adapting stimulus during some runs.

The stimulus probes will be cleaned with a standard alcohol wipe between subjects.

3. EEG recording and cognitive function assessment

The participants will begin by being prepped for EEG recording. For the recording of EEG, participants will wear an electrode net which will allow us to record brain activity from 32 different sites on the scalp. We will then record EEG while the participants complete the flanker task and a novelty oddball task.

The Eriksen flanker task is a computerized cognitive task used to measure levels of executive control, a type of higher level cognitive functioning which occurs in the pre-frontal region of the cerebral cortex. During the task, the participant will be presented with a series of five arrows pointing either to the left (e.g. <<<<<) or to the right (e.g. >>>>>) and will be asked to respond to the middle arrow. When the middle arrow points in the same direction as the outside flanking arrows, then it is considered ‘congruent’ (e.g. <<<<<). When the middle arrow points in the opposite direction as the outside flanking arrows, then it is considered ‘incongruent’ (e.g. <<<><>). The subject will have to quickly determine which direction the middle arrow is pointing and click the left mouse button if it is pointing to the left or the right mouse button if it is pointing to the right. They will be presented with a series of arrows over about a 5-6 minute period and the computer program will determine their speed and accuracy, which translates to a measure of executive control.

A typical oddball task has participants respond as quickly and accurately as possible to a randomly occurring, infrequent target stimulus while ignoring all other stimuli. The oddball stimulus will occur 20% of the time as compared to the non-target stimulus which will occur 80% of the time. The participants will complete two blocks of 300 trials which will be a total of about 6 minutes. They will have a short break in between the two blocks.
RISKS AND BENEFITS

8. Describe any potential physical or psychological risks or problems that a research participant may encounter by participating in this investigation. Also describe how you plan to minimize these risks. Examples of risks and problems include but are not limited to physical injury, painful simulation, deception, coercion, embarrassment, lack of confidentiality, lack of full disclosure, and lack of feedback for subjects. If appropriate, include a description of any special qualification or training by investigators that will be used to minimize risk for the subject (e.g. CPR certification).

There is very slight risk that participants will experience discomfort from the sensory stimulation during or after the tests. The stimulation used is intended to be non-painful gentle mechanical stimulation. The experiment will be immediately stopped and the probes removed from the skin if the subject reports discomfort during the testing. In addition, the subjects may experience slight physical or mental fatigue during the session. Additionally, the application of the electrode cap may cause minor and temporary discomfort for the participant. It should not be painful, but it will not be as comfortable for them to wear the cap as it would for them to not wear it.

9. Describe the potential benefits of conducting this research. List the benefits to the participants themselves, contributions to the field of knowledge, and benefits to society as a whole. If the research participants will not receive any direct benefits from participating in this study, indicate this in your response.

There are no direct benefits to the subject other than the general feeling that they are contributing to a scientific investigation. But a potential long term benefit to Elon student-athletes and club participants is better understanding of cognitive impairment following a TBI event, and how this may assist in potentially avoiding possible future traumatic and catastrophic events by identifying those who may be at increased risk of continued participation or early return to play and instituting appropriate care in a timely manner. In the future, this type of testing may lead to a battery of tests to diagnose or assess individuals who suffer from traumatic brain injury; however, the data collected in this pilot research will not be used to clinically assess the players or determine playing status during the season. The data will only be made available, upon request, to the coaches and training staff after the playing season of the athlete.

PARTICIPANTS

10. Indicate the total number of participants you require, and your sampling procedure.

Approximately 200 student-athletes enrolled at Elon University will be recruited on a volunteer basis to participate in this study. The target population will be athletes, 18-24 years, currently participating in a high-contact sport at a recreational club or intercollegiate level including, but not limited to: football, soccer, rugby, or lacrosse. Both female and male participants will be recruited and will not be excluded due to gender or ethnicity. Subjects will complete a health history questionnaire to determine successful inclusion to the study. We may exclude subjects with pre-existing medical conditions, such as seizures, learning disabilities, or other neurological conditions, which could be exacerbated by this study.

11. Do you plan to use vulnerable subjects in your investigation? ___Yes       X___No

Examples of vulnerable subjects include students, children, prisoners, pregnant women, mentally disabled persons, or economically disadvantaged persons.

12. Describe the type and source of subjects required (i.e., single parents at Elon, psychology classes, patients at Alamance Regional Medical Center, sixth graders at Turrentine Middle School, etc.).
Elon University student-athletes, both varsity and club. We will likely target football, soccer, rugby and lacrosse as athletes who would be most susceptible to concussions.

13. Provide an estimate of the amount of time that will be requested from each person who participates in this research study (number of sessions, amount of time per session, and duration of period of time over which the research will take place).

All participants would complete a one hour baseline session. If the participant appears to have suffered from a concussion, we will bring the student-athlete back to the laboratory for testing on the same procedures as the baseline study.

INFORMED CONSENT PROCEDURES

14. Describe what you have done to make sure your subjects are fully informed about their role in the research, that their confidentiality will be maintained, and that their participation is voluntary, and that they can withdraw at any time without penalty. Include a description of how and by whom consent will be sought from subjects.

We will explain to the subjects in the informed consent document that their participation is completely voluntary and they can withdraw from the experiment at any time for any reason. We will also explain that their role in the research is to allow us to learn more about concussions and their influence on cognitive performance in athletes. Finally, we will ensure that all of the data is kept completely confidential at all times and no personal information will be disclosed to any outside party. We will assure them that this information will not be used in any return to play decisions by the team physician or athletic trainers.

15. Describe any incentives, inducements, or reimbursements (e.g. extra credit, research credit, cash payment, raffle, gift) that will be offered to the participants. Indicate whether participants will receive the incentives if they withdraw before the study has been completed.

At the present time, we do not anticipate to offer any incentives or reimbursements. We ask that the participants kindly volunteer their time for the sake of advancing research in the field of exercise science. However, if we have trouble recruiting subjects we may offer incentives and these would be eligible to all participants.

CONFIDENTIALITY OF THE DATA

16. Indicate the intended use of your data. Check all that apply.

_____ Thesis  __x__ Publication/journal article

_____ Capstone  _____ Results released to participants/parents

_____ Undergraduate honors project  __x__ Results released to employer or school

__x__ Conferences/presentations  _____ Results released to agency or organization

_____ Other. Describe below.
17. Describe the steps you will take to insure the **confidentiality** of the data. Indicate how you will safeguard data that includes identifying or potentially identifying information (e.g. coding). Indicate when identifiers will be separated or removed from the data.

The data will be kept confidential by securing all records in a locked filing cabinet that will only be accessible by the primary researchers and research collaborators. Each subject will be assigned an identification number and all data records will be coded with this number to ensure that the data is confidential and unidentifiable. The subjects’ identities will not be disclosed when this research is presented and the participants will not be identified in any report or publication about this study.

The results of this test will not be used to determine return-to-play status for any student-athlete. The appropriate medical professional will be consulted and the participant referred for further treatment in cases where medical attention is deemed necessary and prudent. Instructions for follow-up care will be provided by the participant’s attending medical professional with additional patient education given by an Elon University Staff ATC and/or Dr. Ken Barnes as requested.

18. Indicate where and how you will **store** the data and how long you plan to retain it. (Research proposals that involve any type of use of human subjects must be retained for 3 years.) Describe how you will dispose of it (e.g. erasure of tapes, shredding of data).

The data and results of the subjects’ cognitive performance testing will be stored on a computer hard drive and transferred to a flash drive if necessary. Data will also be recorded on paper during testing. Both the computer files and paper documents will be retained or at least three years. After three years the computer files will be deleted and the paper documents will be shredded.

19. **Will results of this research be made available to the subjects involved?**

    ___ X ___ Yes    _____ No

20. If so, **how and when?**

    We will have an undergraduate student present the results at that time at SURF conference in April 2010.
Elon University

Consent to Participate in a Research Study

Adult Participants

________________________________________

IRB Study #_____________________

Consent Form Version Date: __July 2009___________

Title of Study: Effects of concussions on cognitive function in athletes

Principal Investigator: Dr. Eric Hall

Phone number: 336-278-5880

Email Address: ehall@elon.edu

Co-Investigators: Dr. Stephen Folger, Dr. Wally Bixby, Dr. Paul Miller and Dr. Kenneth Barnes

Study Contact telephone number: 336-278-5880

Study Contact email: ehall@elon.edu

What are some general things you should know about research studies?

You are being asked to take part in a research study. To join the study is voluntary.

You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

Elon IRB Review Form for Projects Using Human Participants (rev. 6/09), page 11
What is the purpose of this study?

The purpose of this research study is to learn about the effect of concussions on cognitive performance in college athletes at the varsity or club level.

You are being asked to be in the study because you are a college student who still participates regularly in athletics and therefore have a chance to suffer a concussion.

How many people will take part in this study?

If you decide to be in this study, you will be one of approximately 200 people in this research study.

How long will your part in this study last?

This study will take about one hour of your time. However, if you were to suffer a concussion in the 2009-2010 academic year, we would like for you to consider coming back to the laboratory for additional sessions which will last the same length of time.

What will happen if you take part in the study?

When you come to the laboratory we will ask you to complete the following tasks. Each task will take 15-20 minutes.

2) First, you will complete the Immediate Post-Concussion Assessment Cognitive Testing (ImPACT™) concussion management software. This software will ask you a number of questions about your health history and will then have you complete a number of cognitive tasks.

3) Second, you will be asked to take part in a task that will measure your perception of touch. This will be done by putting one or two stimulus probes on the back of the hand. The probes will vibrate at a level that can be felt but is not painful. During the task, you will be asked to indicate whether you feel one or two stimuli, which stimulus is more intense or which stimulus seems to vibrate more (less) frequently.

   a) The last part of the test will have you wear an electrode cap on your head which will allow us to record brain activity using EEG. Additionally, you will be asked to complete a computerized cognitive task.

What are the possible benefits from being in this study?

Research is designed to benefit society by gaining new knowledge. You may not benefit personally from being in this research study. However, a potential long term benefit to Elon student-athletes and club participants is a better understanding of cognitive impairment following a concussion, and how this may assist in potentially avoiding possible future traumatic and catastrophic events by identifying those who may be at increased risk of continued participation or early return to play and instituting appropriate care in a timely manner. In the future, this type of testing may lead to a battery of tests to diagnose or assess individuals who suffer from traumatic brain injury.

What are the possible risks or discomforts involved from being in this study?

There is very slight risk that participants will experience discomfort from the sensory stimulation during or after the tests. The stimulation used is intended to be non-painful gentle mechanical stimulation. The experiment will be
immediately stopped and the probes removed from the skin if the subject reports discomfort during the testing. In addition, the subjects may experience slight physical or mental fatigue during the session.

During EEG recording it may also be somewhat uncomfortable wearing the EEG electrode cap; however, it should not be painful in any way. There may be uncommon or previously unknown risks. You should report any problems to the researcher.

**How will your privacy be protected?**

Your privacy will be protected by securing all data in a locked filing cabinet that will only be accessible by the primary researchers and research collaborators. We will assign you an identification number and code all data records with your number so that all data is kept confidential. Your name will not be disclosed when this research is presented.

Participants will not be identified in any report or publication about this study. Although every effort will be made to keep research records private, there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, Elon University will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety.

**What will happen if you are injured by this research?**

All research involves a chance that something bad might happen to you. This may include the risk of personal injury. In spite of all safety measures, you might develop a reaction or injury from being in this study. If such problems occur, the researchers will help you get medical care, but any costs for the medical care will be billed to you and/or your insurance company. Elon University has not set aside funds to pay you for any such reactions or injuries, or for the related medical care. However, by signing this form, you do not give up any of your legal rights.

**Will you receive anything for being in this study?**

You will not receive anything for taking part in this study.

**Will it cost you anything to be in this study?**

There will be no costs for being in the study

**What if you are an Elon student?**

You may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades at Elon. You will not be offered or receive any special consideration if you take part in this research.

**What if you have questions about this study?**

You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form.
**What if you have questions about your rights as a research participant?**

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have any questions or concerns regarding your rights as a research subject, you may contact the Chairman of the IRB (Dr. Stephen Bailey) at 336-278-6346 or baileys@elon.edu.

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**Title of Study:** Effects of concussions on cognitive function in athletes

**Principal Investigator:** Dr. Eric Hall

**Participant’s Agreement:**

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_________________________________________  __________________
Signature of Research Participant  Date

_________________________________________
Printed Name of Research Participant