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Purpose: To conduct a comprehensive research project concerning RHABDOMYLOSIS: A Forensic Approach to a Public Health Issue

Rhabdomyolysis is a disease described as follows: An acute, sometimes fatal disease marked by the destruction of muscle tissue and coma. This can occur following strenuous exercise and in association with the use of certain drugs such as alcohol, heroin, cocaine, anabolic steroids and some supplements. Renal (kidney) damage manifested by acute necrosis (tissue death) may result if accompanied by acute dehydration or anoxia (lack of oxygen).

Although this disease was always thought to be naturally occurring, the malady is presenting itself often in death and serious injury resulting from certain sports activities such as body building for men and body sculpturing for women.

Due to the popularity of these physical pursuits, many participants present themselves to emergency rooms, dehydrated, exhibiting extremely dark urine associated with acute renal failure (loss of kidney function). The regimen these individuals follow prior to admission is strenuous weight lifting, high protein/no carbohydrate diets in conjunction with no fluid intake 3-5 hours prior to a contest in which they are participating. By dehydrating the muscles they exhibit greater definition of muscles. In addition drugs are also a part of the equation. These include certain anabolic steroids and mega-doses of "supplements". The condition is often irreversible and if the patient survives, constant kidney dialysis and/or a kidney transplant (if possible) are part of the treatment plan.

The purpose of this research project is to gain actual statistics and comprehensive case data and information, utilizing forensic data-gathering techniques to aid not only the forensic investigative function but Public Health as well.

Presently there is no reporting system in place and such cases go unreported to the Medical Examiner or Public Health agencies go unreported so public awareness on this condition and its causes is minimal. Public Health cannot track and educate physicians and crime scene investigators representing forensic science lack the tools to adequately investigate the cases. Currently medical examiners, coroners, and forensic science do not gather data or conduct such examinations for statistical and educational for both groups affected.

Project Description: Crime Scene Technology students along with faculty, a Board Certified Cardiologist and a Board Certified Forensic Pathologist will organize, assemble and finalize a research project on this subject. This investigation will result in a final study suitable for publication. The results will be made available to the public in print as well as on the web. The target audience will be hospitals, clinics, emergency rooms, crime labs and medical examiner facilities. The target will then be extended to those physicians and who treat this malady.

This study is expected to take two years to complete and be under the supervision of faculty and participating physicians who have agreed to participate without any compensation for the sake of Public Health.

Extended Outcomes: PBCC Crime Scene Technology (CST) students will participate and learn about the methodology to conduct the described study. Weekly, students will gather and extrapolate data from the reportings and prepare anyalsis reports to include scientific abstracts when appropriate. The data will be retrieved via a phone line and web page. These instruments will be prepared with the assistance of Dr. Ginger Pedersen, who has offered her assistance to the project.

Proficiency will be demonstrated on behalf of the CST students who participate. Scientific APA writing skills will be demonstrated and the ability and opportunity for the student to co-author the final publication and final study is expected.

Project Evaluation: Both quantitative and qualitative methodologies will be used during the course of the study. If RHABDOMYOLYSIS continues to rise as a result of described actions and activities such data will serve both the forensic and public health communities. Results will be brought forward to those communities on a periodic basis on behalf of those students participating with faculty and physcian oversight. These presentations will be both written and oral in design.

Students upon the conclusion of the study will then prepare a public information strategies report for both the forensic and public health community in addition to student population awareness all of which will be target audiences. These awareness strategies will be directed to assist in prevention and investigative techniques.

Benefit to Students and Palm Beach Community College:

- a. Student retention rates increases by 10 percent by due to active participation.
- b. Student academic success rate will increase due to advanced learning techniques and strategies employed during the course of the study, gain portfolio additions and authorship of the final paper.
- c. The study will provide results for Public Health and the Forensic Science communities to use for both public education, research and prevention.
- d. The study project upon its conclusion can connect to Allied Health programs offered by PBCC.
- e. The PBCC gains the recognition of conducting an indepth study that has far reaching effects on the community and students. The study will hopefully assist in and the decrease of rhabdomyolysis in our student and public populations.

Budget:

Academic Year 1

1. Dell laptop XPS with associated software, scanner and portable printer for on site visit and data collection \$3,000.00
2. Faculty, copying, clerical and misc. expenses for a two year time period \$2,000.00

Academic Year 2

Non applicable as all costs previously covered

TOTAL

N/A

\$5,000.00