will help prevent heat illness. "Some authorities recommend that one iter (approximately 1 quart) of 0.1 per cent salt solution be ingested hourly by athletes who are participating in the heat. This serves the purpose of replacing both the salt and the water lost during heat and exercise exposure. Others state that increased salt at mealtime is adequate for replacing salt lost in the heat through sweat. In any event, salt should be replaced daily. Taking salt with plenty of drinking water prevents gastro-intestinal disturbances and improves the ability to perform. After the athlete becomes acclimatized, he is able to maintain his balance by the salt taken with his normal daily food intake.

Highly motivated athletes will not indicate when they are experiencing discomfort which may lead to heat iliness. Most athletes hesitate to report physical discomfort to the coach because they feel it is not an acceptable practice among determined athletes. This custom makes it especially important that coaches and trainers be aware of symptoms which may be indicative of heat illness. Symptoms which may be recognized are nausea, unusual wkwardness, uncoordinated gait, dizziness, staggering, fatigue, indifference, reduced morale, and a rapid and weak pulse.

"Coaches should schedule their early-season practice sessions for early morning or late afternoon. The reasoning behind this suggestion is obvious. The time of day suggested is cooler and the direct rays of the sun do not increase the heat load of the exercising athlete.

"A final and crucial point is to stress the importance of getting a complete history and thorough medical examination of all athletes. This point cannot be over-emphasized. An athlete should be prohibited from participating in any phase of athletics until he has received both the complete physical examination and approval to participate from the attending physician.

"It is important to remember that a well-conditioned and heat-adapted athlete can succumb to heat illness if the work is severe enough in a hot environment. Recovery from heat illness is generally mpid and without ill effects provided there are no complicating conditions such as dehydration and salt deficiency.

"Heat disorders will not become a senous problem to our athletics if a precautionary program is undertaken by all coaches. If a coach needs any help in developing such a program, it is recommended that he seek the best available medical advice.

"Successful industrial and military practices relating to prevention of heat illness in high ambient temperatures lead me to believe that the above comments

"On the other hand, if the above comments are disregarded, heat disorders can be expected. I will maintain this position until evidence to the contrary is made available."

* * *

The committee has not seen as part of responsibility the drawing of conclusions covering the death of William C. Arnold, Jr. As indicated at the beginning of this report, the committee has attempted only to assemble facts. This committee has also been aware, however, of numerous rumors, accusations, and questions surrounding the event and indeed, during the course of its work, the committee raised additional questions of its own. The committee deems it necessary and desirable to respond to those items

1. What was the institutional response to the illness and subsequent death of William C. Arnold, Jr.?

Response: Arnold's hospitalization was reported to the Chancellor early Tuesday morning, September 7. He immediately scheduled a meeting for later that morning with the Athletic Director, the Director of Student Health Services, and the team physician. In the meantime, the Chancellor discussed the matter with several members of the Athletic Committee and others and the necessity of initiating an inquiry was recognized. There were differences of opinion as to whether the study should be undertaken by the Athletic Department, the Faculty Committee or an outside group. The Chancellor's decision was that the appropriate action at the time was to obtain a report from the department concerned and he therefore at the

meeting requested that the Director of Athletics make such a report as soon as possible. Other actions discussed below were also taken at this time. On Thursday, September 16, the Chancellor called a meeting of the full Athletic Committee to discuss the questions of whether and in what form any public statement should be made and whether a different form of inquiry was appropriate. The Committee, after extended discussion, recommended that no further inquiry be initiated at this time because of the strong tradition in this University of departmental

responsibility. The committee concurred in the Chancellor's judgment that the Athletic Department should have the opportunity to make a report to him. The committee also recommended that a statement be released expressing the University's concern in the matter and announcing that the report had been requested from the Director of Athletics. Such a statement was drafted by the Chancellor. It was not released because of Arnold's critical condition and consideration of the Arnold family's feelings. The report, without any medical data because of the decision of the attending physician not to discuss the case during the course of treatment, was submitted to the Chancellor on Tuesday, September 21. Subsequently, the Chancellor requested the Athletic Committee to study the entire matter. A similar request was made by the Chairman of the Faculty. subcommittee of the Athletic Committee was appointed on Friday, September 24. and began work on Monday, September 27, culminating in this report.

2. Was there an effort to suppress information concerning Arnold's illness?

Response: There is no evidence of any attempt to actually suppress information. Mr. Jack Williams, Sports Information Director, stated to the committee that this was the most poorly handled news event he has ever experienced. The committee cannot evaluate nor gainsay Mr. Williams' professional opinion. But the committee is also cognizant of several factors that affected the flow of information. Foremost among these was a strong feeling on the part of the Arnold family that they did not want any publicity. In addition, the attending physician declined to make any statements concerning the case during the course of treatment. Finally, there were three separate news bureaus involved (University, hospital, and sports) and neither the source from which information should be obtained by the media nor the authority to release such information was clear. The committee has been informed that guidelines for handling the news flow in cases of this

kind are to be established. 3. Were members of the football team instructed not to discuss the Arnold case? Response: Again, there is no evidence of any attempt to suppress information. The committee is unanimous in its belief

that there was no hesitancy upon the part of coaches or players to appear before it and that those who did appear were completely candid. The committee also detected a desire for privacy among team members both individually and as a team and an objection to unwarranted inquiry by persons with no official concern in the

4. What are the facts concerning fluid and rest breaks during football practice? Response: As is set out above in the

report, such breaks were part of the routine during the longer practice before the week of the first game. When this point was reached practice time was reduced to less than two hours once a day and no break was included. Coach Dooley stated to the committee that this decision was made (1) based on his understanding of the professional literature available to him that after three weeks of practice and when the sessions were less than two hours in duration no break was necessary; (2) the absence of any certainty that fluid breaks under these circumstances were, in fact, beneficial or necessary when balanced against some indications that fluid may increase the likelihood of heat cramps and nausea; (3) his experience here and elsewhere that indicated such breaks were unnecessary, particularly considering the fact that each member of his staff maintains close supervision over a small number of players, knows their individual traits, and has been successful in recognizing the on-set of heat cramps and heat exhaustion. On the other hand, the team physician, Dr. Dewalt, stated that he has for some time advocated fluid breaks every twenty minutes at every practice as a prophylactic measure in regard to heat exhaustion specifically and out of an abundance of caution in regard to the other heat injuries although medical knowledge in regard to the latter is scarce. The Chancellor has now given the team physicians clear authority in this area and fluid breaks are given every

twenty minutes at every practice. It has been noted that the evidence is

absolutely clear that William Arnold was not dehydrated to any degree when admitted to the hospital. The primary medical indication of fluid shortage is the hematocrit reading. This is the volume percentage of erythrocytes in whole blood. It is the ratio of the volume of cells (after centrifuging) to the volume of whole blood, expressed as a percentage. Arnold's hematocrit reading was 39 at the time of his admission, which is well within the normal range. The committee has received numerous medical opinions that fluid was not a factor in Arnold's illness. No physician has given a contrary

5. What is contained in the Director of

Athletics report to the Chancellor? Response: This report was made available to the Committee. It was written before any medical information was available. There is no significant difference between the recital of the events that took place on the afternoon of Monday, September 6, contained in the report and those found and reported above by this committee. The Athletic Director's communication to the Chancellor does contain conclusions arrived at by Mr. Rice based on the facts as he then understood them and his experience in athletic coaching and administration. Those conclusions are, essentially, that there were no extraordinary incidents involved and that Arnold's illness was an extremely unfortunate occurrence that was neither predictable nor preventable.

6. What information is available from the N.C.A.A. or other professional groups regarding heat illness?

Response: The following is a compilation of the suggestions, precautions, and recommendations by the National Collegiate Athletic Association, The American Medical Association's Committee on The Medical Aspects of Sports, The National Federation of State High School Athletic Association and the American Football Coaches Association for participation in football activity in hot weather:

(1) Require a careful medical history and examination before football practice

(2) Schedule workouts during cooler morning and early evening hours in hot (3) Acclimate athletes to hot weather

football practice by carefully graduated practice sessions. This is important.

(4) Provide rest periods of 15 to 30 minutes during workouts of an hour or more during hot weather.

(5) Supply light colored clothing (to reflect heat) which is lightweight, loose, and comfortable (to permit heat escape) and permeable to moisture (to allow heat loss via sweat).

(6) Furnish extra salt and water in recommended amounts during hot weather practice sessions. (Water at least every hour.)

(7) Watch athletes carefully for signs of trouble, particularly the determined athlete who may not report discomfort. (8) Remember that the temperature and humidity, not the sun, are the important factors. Heat exhaustion and

heat stroke can occur in the shade. (9) Measure the relative humidity by the use of a sling psychrometer on the field. The relative humidity is then used to determine the precautions necessary for football practice at the time of the

(10) Medical arrangements must be made in advance to obtain a physician's immediate service when an emergency

It is the opinion of Dr. Carl Blyth that late summer and early fall football practice is compatible with sound athletic procedures provided that the recommendations, precautions, and suggestions outlined above are followed.

7. What are the practices at other institutions?

Response: The Committee spoke with members of the athletic staff who have had experience at such schools as Alabama, Auburn, Georgia, Georgia Tech, Virginia Tech, George Washington, Mississippi, Mississippi State, Texas, Texas A&M, Oklahoma and Kentucky. Recognizing that different head coaches have different personalities and theories, the consensus of the opinions given indicates that the program of pre-season practice here is similar to those at these other institutions. To obtain specific information the Committee requested the Athletic Directors at North Carolina State, Duke, Wake Forest, and Virginia to report in detail the schedules and arrangements at pre-season practice, with particular regard to length of practice, rest and fluid breaks, availability of medical personnel and any other special precautions taken to accommodate to climatic conditions. At the time this report was drafted, responses had been received from Wake Forest and North Carolina State only. The information is not very detailed, and in each instance covers only the two weeks between the

Across From Bus Station

three day conditioning period and the first pre-game week. Wake Forest practices twice a day, for two hours at a time, at 9:30 a.m. and 3:00 p.m. There is a fluid break during each session. The team physician is present each day during the last thirty minutes of the afternoon session only. North Carolina State practices twice a day, at 6:45 a.m. and 3:45 p.m. for two hours and thirty minutes each time. A five minute break is included in each session. A physician is available for games and game-type scrimmages only.

8. Did Arnold manifest symptoms of heat illness prior to his collapse?

Response: As is indicated above the physicians who spoke to the Committee indicated that heat stroke is not preceded by recognizable indications. The statements of witnesses as to his appearance are not consistent. It is clear that his appearance and actions were completely normal through the fifth or sixth wind sprint. Two players reported erratic behavior and unusual appearance at about that point. The other players who saw him and all of the coaches state that his appearance was completely normal and his actions were normal for the circumstances until he fell. Those who conversed with him, both players and coaches, report that he seemed in control of his mental faculties until he became unconscious outside the gate. Almost every witness indicated a different time at which Arnold's eyes were or became glazed, varying from the time he needed help in walking away from the gate to when he was on the equipment truck at the field house.

9. Was Arnold kicked or otherwise

Response: There is no evidence whatever that Arnold was struck, kicked at any time, or otherwise abused. The statements of witnesses are quite inexact on what was said; the most reasonable probability is that he was urged and encouraged to overcome his apparent fatigue, but that no abuse was involved. 10. Was Arnold abandoned by the

coaching staff? Response: If the statements of the coaches involved regarding Arnold's appearance before he was outside the gate are accepted, then the evidence is quite to the contrary. As soon as the seriousness of Amold's condition was recognized, the coaching staff and head

11. What medical personnel were

immediately took charge of the situation

and began appropriate action.

Response: A physician is not always on the practice field. The Committee was informed that other responsibilities of the team physicians preclude constant attendance. A physician is present at all games and game-type scrimmages. Otherwise the team physicians attend practice as their schedules permit. Dr. Lincoln B. Scott, the team physician for freshman sports, was, in fact, at the practice on September 6. He left while the wind sprints were in progress because he saw nothing to indicate the possibility of the events that occurred. Two professional trainers and several student trainers are at each practice. All but the head trainer had escorted other injured players to the field house or infirmary just before the end of the practice on September 6. Because of his position on the field and the congestion at the gate the head trainer did not get close to Arnold until just before Arnold was put on the equipment truck. The trainer immediately recognized the potential seriousness of the matter and organized the transportation of Arnold to the infirmary. It should be added that the team physician stated to the Committee that the handling of the emergency was excellent and that "If I had been there, the most I could have done to help was provide two more hands to load him on

12. Why was an equipment truck

Response: That was the most expedient means available. Usually there is at least one and sometimes two station wagons on the practice field in addition to the truck. On this day there were two. Both had departed shortly before the end of practice with other injured players. When the need for a vehicle to transport Arnold was first recognized, the trainer ran to the field house to get one of the station wagons. In the meantime others had loaded Arnold onto the truck and it and the trainer arrived at the field house simultaneously. Arnold's equipment was cut off in an attempt to make him more comfortable and accessible for treatment. He was then placed in a station wagon and taken to the infirmary. The University does not have an ambulance.

13. Was there undue delay at the

Response: Two residents, Drs. Phillip M. Blatt and Timothy C. Poirier, were waiting when Arnold arrived; the team physician arrived within three to five minutes; and approximately twenty

Wednesday, October 20, 1971 members of the house staff answered within ten minutes the emergency call system activated when the infirmary was notified that Arnold was being brought initiation of treatment for heat stroke?

14. Is time a critical factor in the

Response: Dr. Finn stated that it is difficult to correlate the immediacy of treatment and the mortality rate. He suggested that there must be such a correlation but there is no information positively establishing it because no one has accurately studied the time from the onset of the first symptom until the time treatment begins. In regard to Arnold, Dr. Finn gave it as his opinion that treatment was started within a period that should not have jeopardized the possibility of

It should be noted that the Committee found no basis in fact for rumors to the effect that Arnold was at the field house for thirty or more minutes and that it was at least thirty minutes before a physician arrived at the hospital. The evidence is clear that he was not taken inside the field house at all, that not more than fifteen minutes total time elapsed from the time he collapsed until treatment was begun, and that physicians attended him immediately upon his arrival at the

15. Was Arnold using drugs or on a

Response: As to the diet, the evidence is directly to the contrary; he was trying to gain weight. Regarding drugs, there was no evidence of any drug in his system when he was under treatment at the hospital and his roommates and other close associates categorically deny drug use on his part.

16. Did Arnold's head strike the curb? Response: There is no curb where he fell. The upper part of his body and his face did strike the black top when, as they were easing him to the ground the first time, the players supporting him miscalculated Arnold's ability to control himself and released their grip too soon. 17. Were there numerous heat illnesses

on Monday, September 6? Response: Several players said that they felt dizzy or weak but were able to continue, especially after the rain. Bill Thornton was the only other case of heat illness actually treated. He was removed from practice about 5:30, taken to the field house for treatment, and then to the infirmary. Reports that Mike Mansfield was a victim of heat illness are incorrect. Mansfield was told to discontinue practice between 5:15 and 5:30 because his asthmatic condition was making breathing difficult for him. He did not actually leave the field and did not go to

18. Was Arnold ill before practice on September 6, and specifically, did he have a fever of 103 degrees?

the infirmary.

Response: No one interviewed by the Committee had any knowledge or any indication from Arnold of such an illness. Dr. Finn discounted the possibility on the basis that in his opinion, had Arnold had such a condition, he would not have been able to practice effectively and particularly to win the first two sprints.

19. What is the merit of the various allegations contained in newspaper accounts attributed to purported eye witnesses?

Response: The Committee found only two newspaper items containing supposed eye-witness accounts. These were a letter to the Chapel Hill Weekly from Colonel George Matthews and a letter to the Daily Tar Heel from Michael G. Serbousek, a student and former football player. Colonel Matthews' contact with the event consisted of his driving by as Arnold was being taken away from the field. Although his letter had indicated some knowledge of occurrences inside the field, Colonel Matthews stated to the Committee that he had no personal knowledge of those events. He maintained his claim that no coaches or

trainer by sight. Mr. Serbousek stated that his knowledge of the events was based on conversations with three football players. These players were interviewed. Two of them witnessed the events and their version coincides with that of other witnesses in some parts and differs in others. The differences have been noted in the report. The third player denied any knowledge of the events. He stated that he was not a witness and knew only what

trainers helped Arnold, although he

admitted that there were adults present

and that he did not know any coach or

he had heard other players say. That completes the portion of this report directly connected with the illness and death of William C. Arnold, Jr.

> INTERIM REPORT ON OTHER MATTERS

While the committee's specific charge at this time was to concern itself with the events surrounding William Arnold's

The Daily Tar Heel liness, other issues, some related at least indirectly to the Amold matter and others of broader application, command the attention of the committee and should be mentioned.

Intercollegiate athletics is presently being subjected to extensive study and critical evaluation. Necessarily this University must continually, but particularly at this time, examine its " athletic policies and practices. It must be pointed out here to those who may not be familiar with the lines of authority in athletic matters that in 1962 the Trustees made it unmistakably clear that the primary responsibility for the administration of athletic programs rests directly with the Chancellor, with such aid and advice as he may wish to have. The Director of Athletics is directly responsible to him. The Faculty Athletic Committee, of which the Athletic Director is an ex-officio member, is advisory to the Chancellor, and the Athletic Council-made up of students, alumni and faculty members and advisory to the Director of Athletics. This administrative set-up was specifically recommended by the Faculty Council at its meeting on April 2, 1962, in the face of a real threat that Trustee control might The Athletic Committee considers

itself to have an obligation to perform its role of adviser on the very critical matters alluded to above. It intends to work with the Chancellor and the Director of Athletics to consider such items as the following, which are only illustrative and most of which are even now under consideration here and at other institutions, in many instances as items for study by N. C. A. A. committees. Should athletic grants-in-aid be awarded on a need basis? Should there be a curtailment of the number of athletic grants-in-aid awarded, either generally or in specific sports? Should recruiting methods be subject to greater restrictions? Is the life-style of athletes adequately guarded against unwarranted infringements as members of the student body of the University? Should the practice of "red-shirting" (holding a player out of competition to lengthen his eligibility) or spring practice be eliminated by N. C. A. A. rule? Is the substantial body of expertise on the prevention of athletic injuries that is present on this campus and elsewhere available to and sought by the coaching staffs? Are practice sessions of reasonable duration and adequately supervised by medical and para-medical personnel? Should trainers be hired and supervised by the Director of the Student Health Service? How large a staff of physicians and trainers is necessary, desirable and possible, and particularly can financial resources be found to expand the medical staff for minor sports that are now of necessity virtually unattended?

Examination of these-and related issues-by the committee and their resolutions should lead to a stronger and more vital athletic program at the University. The committee will, therefore, continue to concern itself with these matters in order to assist the Chancellor and the Athletic Director and report its work to the Faculty Council

Presently the committee is able to make such a report on one very important development.

During the course of the past two weeks it became clear to the committee quickly that a very real problem-not unique to this campus-concerning the interrelationships and areas of responsibilities between players, coaches, trainers and team physicians had existed for a substantial period of time. There was a lack or break-down of communications between the entities so vitally concerned with the health and well-being of student athletes. This problem was also recognized by the Chancellor in his discussions with members of the faculty and staff concerning the Arnold matter. He directed that a new policy statement governing the relationship between the Athletic Department and the Student Health Service be put into effect. Basically, it unequivocally gives the Director of the Student Health Service, through his delegates, the team physicians, authority to control participation, whether in a practice or a game, of any student where health factors The committee believes that this is a

positive development from the illness of Billy Arnold, whose tragic passing we all deeply mourn. The greater tragedy would be not learning from and building upon his life and death. This is consistent with the overall aim that in athletics as in all of its programs the University is committed to excellence with maximum service to students, staff, the state and nation.

Signed by: G. A. Barrett, Carl S. Blyth, F. W. Klingberg, C. P. Lyons, R. A. Melott, P. G. Phialas, B. R. Wilcox, E. McG. Hedgpeth, Chairman; Joseph H. Stallings, President of the Student Body; J. Carlyle Sitterson, Chancellor.







