



NATIONAL NAVAL MEDICAL CENTER
BETHESDA 14, MARYLAND

IN REPLY REFER TO

25 November 1963

CD 371

(later
CE 397)

From: Commanding Officer, National Naval Medical Center
To: The White House Physician

Subj: Autopsy protocol in the case of John F. Kennedy, Late President
of the United States

1. Transmitted herewith by hand is the sole remaining copy (number eight) of the completed protocol in the case of John F. Kennedy. Attached are the work papers used by the Prosector and his assistant.

2. This command holds no additional documents in connection with this case.

3. Please acknowledge receipt.

L.B. Galloway
C. B. GALLOWAY

upper mediastinum
Only a few mm in
size 3-5 mm.

Important. Col.
wall of the trachea -
no missile in the wound.

Dep. Malrose 1-5050
4115 Park Lane
Dallas 20, Tex.
FL 2-5548
Home

Off in Med. School
tom. Dept. of Surgery
Dr. Shiers
Dr. Malcolm Perry at Home

Ab3. 272

Kennedy, John F.

Date of birth — — 1917

Date of death 11/22/63

Hour of death 1:00 PM CST Dallas, Tex.

Hour of autopsy 3:00 PM EST Bethesda, Md.

Clinical Summary

According to available information the deceased, President John F. Kennedy, was riding in an open car in a motorcade during an official visit to Dallas, Texas on 22 Nov. 1963. The president was sitting in the right rear seat with Mrs. Kennedy seated on the same seat to his left. Sitting directly in front of the president was Gov. John B. Connally of Texas and directly in front of Mrs. Kennedy sat Mrs. Connally. The vehicle was moving at a slow rate of speed ~~at approximately twenty miles per hour~~ down an incline into an underpass that leads to a freeway route to the Dallas Trade Mart when the president was to ^{deliver} give an address. Three shots were heard and the president fell ^{forward} ~~backward~~ to the floor of the vehicle.

bleeding from the head. (Governor Connally was seriously wounded by the same gunfire). According to newspaper reports (Washington Post Nov. 23, 1963) Bob Jackson, a Dallas Times Herald photographer, said he looked around as he heard the shots and saw a rifle barrel disappearing into a window on an upper floor of the nearby Texas School Book Depository building.

Shortly following the wounding of the two men the car was driven to Parkland Hospital. In the emergency room of that hospital the president was attended by Dr. Malcolm Perry. Telephone communication with Dr. Perry on Nov. 23, 1963 develops the following information relative to the observations made by Dr. Perry and procedures performed there prior to death.

Dr. Perry noted the massive wound of the head and a second, puncture wound, of the low anterior neck in approximately the midline. A tracheostomy was performed by extending the latter

wound. At this point bloody air was noted
bubbling from the wound and an injury to
the lateral wall of the trachea was observed.
Incisions were made in the upper anterior
chest wall bilaterally to combat possible
sub-cutaneous emphysema. Intravenous
infusions of blood and saline were begun
and oxygen was administered. Despite these
measures cardiac arrest occurred and closed
chest cardiac massage failed to re-establish
cardiac action. The president was
pronounced dead approximately thirty to
forty minutes after receiving his wounds.

The remains were transported via
the presidential plane to Washington, D.C.
and subsequently to the Naval Medical
School, National Naval Medical Center,
Bethesda, Md. for post-mortem examination.

General Description of Body The body is
that of a muscular, well developed and well
nourished adult caucasian male measuring
70 1/2 inches and weighing approximately

wound. At this point bloody air was noted bubbling from the wound and an injury to the left lateral wall of the trachea was observed. Incisions were made in the upper anterior chest wall bilaterally to combat possible sub-cutaneous emphysema. Intravenous infusions of blood and saline were begun and oxygen was administered. Despite these measures cardiac arrest occurred and closed chest cardiac massage failed to re-establish cardiac action. The patient was pronounced dead approximately thirty to forty minutes after receiving his wounds.

The remains were transported via the presidential plane to Washington, D.C. and subsequently to the Naval Medical School, National Naval Medical Center, Bethesda, Md. for post-mortem examination.

General Description of Body The body is that of a muscular, well developed and well rounded adult caucasian male measuring 72 1/2 inches and weighing approximately

170 lbs. There is beginning of
 minimal dependent varicosities
 and early algal metasts. The
 reddish-brown and abundant
 blue the st. pupil is 4 mm. in
 diameter. The cornea is
 edema and ecchymosis of the
 region of the left eye is
 1.5 cm in greatest diameter
 and ecchymosis of the
 orbital ridge. The
 the undulating surface
 of the sclera is
 skull.) - The
 externals are
 and most are
 The teeth are in
 is some pallor
 membrane.

Situated on the upper st. posterior
 thorax just above the upper border of
 the scapula there is a 7 x 4 mm oval
~~small~~ wound. This wound is incised

to be 14 cm. from the tip of the st.
acromion process and 14 cm. below the
tip of the st. mastoid process.

Situated in the low-anterior neck
at approximately the level of the third and
fourth tracheal rings is a 6.5 cm. long
transverse wound with widely gaping
irregular edges. (The depth and character
of these wounds will be further described
below.)

Situated on the anterior chest wall
in the nipple line are bilateral 2 cm. long
recent transverse surgical incisions into
the subcutaneous tissue. The one on the
left is situated 11 cm. cephalad to the
nipple and the one on the right 8 cm.
cephalad to the nipple. There is no
hemorrhage or ecchymosis associated
with these wounds. A similar clean
wound measuring 2 cm. in length is
situated on the antero-lateral aspect of
the ~~right~~ ^{left} mid arm. Situated on the
antero-lateral aspect of each arm is a

recent 2 cm. transverse incision into the sub-cutaneous tissue.

There is an old well healed 8 cm. Mc Burney abdominal incision. Over the lumbar spine in the midline is an old, well healed 15 cm. scar, situated on the upper anterior-lateral aspect of the right thigh is an old, well healed 8 cm scar.

Missile Wounds

1. There is a large irregular defect of the scalp and skull on the right involving chiefly the parietal bone but extending somewhat into the temporal and occipital regions. In this region there is an actual absence of scalp and bone producing a defect which measures approximately 13 cm. in greatest diameter.

From the irregular margins of the above scalp defect tears extend in stellate fashion into more or less intact scalp as follows:

a) From the right inferior temporo -

parietal margin anterior to the st. ear to a point slightly above the tragus.

b) From the anterior parietal margin anteriorly on the forehead to approximately 4 cm. above the st. orbital ridge.

c) From the left margin of the main defect across the midline antero-laterally for a distance of approximately 8 cm.

d) From the same starting point as (c) 10 cm postero-laterally.

Situated in the posterior scalp approximately 2.5 cm laterally to the right and slightly above the external occipital protuberance

is a ~~faceted~~ ~~irregular~~ ~~wound~~ ~~tangential~~ ~~to~~ ~~the~~ ~~surface~~ ~~of~~ ~~the~~ ~~scalp~~ measuring 15 x 6 mm.

In the underlying bone is a corresponding ~~irregular~~ ~~wound~~ ~~through~~ ~~the~~ ~~bones~~ ~~of~~ the skull which exhibits the ~~appearance~~ ~~of~~ the margins of the bone when ~~fractured~~ ~~from~~ the inner ~~aspect~~ ~~of~~ ~~the~~ ~~skull~~ is clearly visible in the above described

large skull defect and extending from it is ~~isolated~~ ~~brain~~ ~~tissue~~ which on close inspection proves to represent ~~the~~

the major portion of the right cerebral hemisphere. At this point it is noted that the falx cerebri is extensively lacerated with disruption of the superior sagittal sinus.

Upon reflecting the scalp multiple complete fracture lines are seen to radiate from both the large defect at the vertex and the smaller ~~partial~~ wound at the occiput. These vary greatly in length and direction the longest measuring approximately 19 cm. These result in the production of numerous fragments which vary in size from a few millimeters to 10 cm. in greatest diameter.

The complexity of these fractures and the fragments thus produced tax satisfactory verbal description and are better appreciated in photographs and ~~radiographs~~ radiograms which are prepared.

The brain is removed and preserved for further study following formalin fixation. Received as separate specimens ^{in Dallas, Tex.} are three fragments of skull bone which in

aggregate roughly approximate the dimensions of the large sized described above. At one angle of the largest of these fragments is a portion of the perimeter of a roughly circular wound ^{presumably} of exit which exhibits ^{depth} of the outer ^{aspect of the} and is estimated to measure approximately 2.5 to 3.0 cm in diameter. Roentgenograms of this fragment reveal minute ^{particles} fragments of metal in the bone at this margin. Roentgenograms of the skull reveal multiple minute metallic fragments along a line corresponding with a line joining the above described ^{small} ^{occipital} ^{frontal} wound and the st. supra-orbital ridge. From the surface of the dimpled st. cerebral cortex two small irregularly shaped fragments of metal are recovered. These measure 7 x 2 mm + 3 x 1 mm. These are placed in the custody of agents Francis X. O'Neil, Jr. and James W. Stout of the Federal Bureau of Investigation, who executed a receipt therefor (attached). 2. The second wound ^{presumably} of entry is that

described above in the upper st. posterior
thorax. Beneath the skin there is ecchymosis
of subcutaneous tissue and musculature.
The muscle path through the fascia and
musculature cannot be easily probed. The
wound ^{presumably} of ~~it~~ was that described by Dr.
Malden Perry of Dallas in the low-anterior
cervical region. When observed by Dr.
Perry the wound measured a "few
millimeters in diameter" however it was
extended as a tracheotomy incision and thus
its character is distasteful at the time of
autopsy. However there is considerable
ecchymosis of the strap muscles of the st
^{side of the} neck and of the fascia about the trachea
adjoined to the st ^{side of} the tracheotomy
wound. The third point of reference in
connecting these two wounds is in
the apex (supra-clavicular portion) of
the st. pleural cavity. In this region
there is contusion of the parietal pleura
and of the extreme apical portion of the
st. upper lobe of the lung. In both

instances the diameter of contusion and
ecchymosis at the point of maximal involvement
measures 5 cm. Both the visceral and parietal
pleura situated overlying these areas of
trauma.

Incisions The scalp wounds are extended
in the coronal plane to examine the cranial
contents and the customary "Y" shaped incision
is used to examine the body cavities.
Thoracic Cavity - The bony cage is
unavailable. The thoracic organs are
in their normal positions and relationships
and there is no increase in free pleural fluid.
The above described area of contusion in the
apical portion of the rt. pleural cavity is
noted.

Lungs - The lungs are of essentially similar
appearance the rt. weighing 370 gm, the
left 290 gm. The lungs are well aerated
with smooth glistening pleural surfaces
and grey-pink color. A 5 cm dia. area of
purplish red discoloration and increased firmness
to palpation is situated in the apical

portion of the rt. upper lobe. This corresponds to the similar area described in the accompanying parietal pleura. ^{hemorrhage into pulmonary parenchyma.}

Heart - The ~~pericardial~~ ^{pericardial} cavity is smooth walled and contains approximately 1 cc of straw-colored fluid. The heart is of essentially normal external contour and weighs 35.6 gm. The pulmonary artery is opened in situ and no abnormalities are noted. The cardiac chambers contain moderate amounts of post-mortem clotted blood. There are no gross abnormalities of the leaflets of the cardiac valves. The following are the circumferences of the cardiac valves: aortic 7.5 cm, pulmonary 7 cm, tricuspid 12 cm, mitral 11 cm. The myocardium is firm and reddish-brown. The left ventricular myocardium averages 1.2 cm in thickness, the rt. ventricular myocardium 0.4 cm. The coronary arteries are dissected, are of normal distribution and smooth walled and elastic throughout.

Abdominal Cavity - The abdominal organs are in their normal positions and relations - shape and there is no increase in free peritoneal fluid. The vermiform appendix is surgically absent and there are a few adhesions joining the region of the cecum to the ventral abdominal wall at the above described old abdominal incision scar.

Skeletal System - Aside from the above described skull wounds there are no significant gross skeletal abnormalities.

Photography - Black and white and color photographs are ^{depending} ~~present~~ of significant findings; Expendable radiographs

Radiographs - Roentgenograms are ^{needed} ~~present~~ of the entire body and of the separately submitted three fragments of skull bone. Independent radiograph

Summary Based on the above observations it is an opinion that the deceased died as a result of two ^{paralyzing} gunshot wounds inflicted by high velocity projectiles fired by a person

as persons unknown. The projectiles were fired from a point behind and somewhat higher above the ~~horizontal plane~~ ^{perpendicular to the axis of the} ~~to the vertical position~~ of the body at the moment of impact. The observations and available information do not permit a satisfactory estimate as to the sequence of the two wounds.

The fatal missile entered the skull above and to the right of the external occipital protuberance. A ~~small~~ portion of the projectile traversed the cranial cavity in a posterior-anterior direction (see lateral skull roentgenogram) depositing minute particles along its path. ~~The~~ ^A ~~small~~ portion of the projectile made its exit through the parietal ^{bone} ~~bone~~ on the right. ~~The two wounds carrying with it portions of~~ ^{the} ~~two wounds~~ ^{of} ~~carrying~~ ^{the} ~~with it~~ ^{of} ~~portions of~~ ^{the} ~~cerellum,~~ ^{the} ~~skull and scalp.~~ ^{of} ~~The two wounds~~ ^{of} ~~of the skull~~ ^{of} ~~combined~~ ^{of} ~~with the force of the~~ ^{of} ~~missile produced~~ ^{of} ~~extensive fragmentation of~~ ^{of} ~~the skull, laceration of the superior sagittal~~ ^{of} ~~sinus and of the rt. cerebral hemisphere.~~ ^{of}

The ~~second~~ ^{other} missile entered the rt. superior posterior thorax above the

scapula ~~to the right of the~~ ^{midline} and
 traversed the soft tissues of the supra-
 scapular and supra-clavicular portions of
 the base of the right side of the neck. This
 missile produced contusions of the st. apical
 parietal pleura and of the apical portion
 of the st. upper lobe of the lung. The missile
 contused the strap muscles of the st. side
 of the neck, damaged the trachea and
 made its exit through the anterior surface
 of the neck. As far as can be ascertained
 this missile struck no bony structures in
 its path through the body.

A supplementary report will be
 submitted following more detailed examination
 of the brain and of microscopic sections.
 However it is not anticipated that these
 examinations will materially alter the
 findings.

In addition I saw opinion that the
 wound of the skull produced such extensive
 damage to the brain as to preclude the
 possibility of the deceased surviving this injury.

NAME: _____ RANK/RATE _____

DATE/HOUR EXPIRED: _____ WARD _____ DIAGNOSIS _____

PHYSICAL DESCRIPTION: RACE: _____ Obtain following on babies only:

Height _____ in. Weight _____ lb. Hair _____ Color _____
 Color eyes _____ Pupils: Rt _____ mm, Ls. _____ mm
 Crown-rump _____ in. Crown-heel _____ in.
 Circumference: Head _____ in. Chest _____ in.
 Abd. _____ in.

WEIGHTS: (Grams, unless otherwise specified)

LUNG, RT. 330 KIDNEY, RT. 1375 ADRENALS, RT. _____

LUNG, LT. 290 KIDNEY, LT. 140 ADRENALS, LT. _____

BRAIN _____ LIVER 153 PANCREAS _____

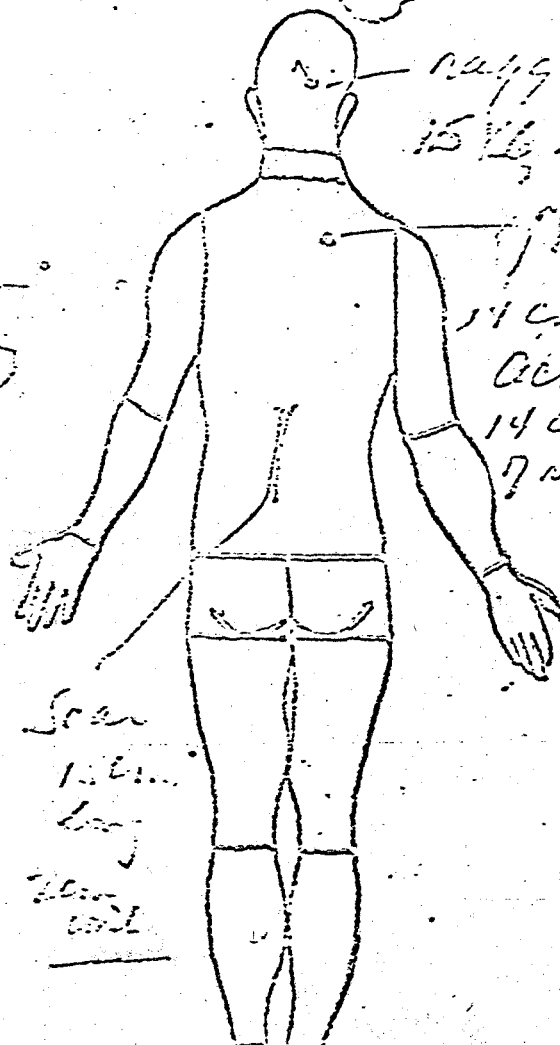
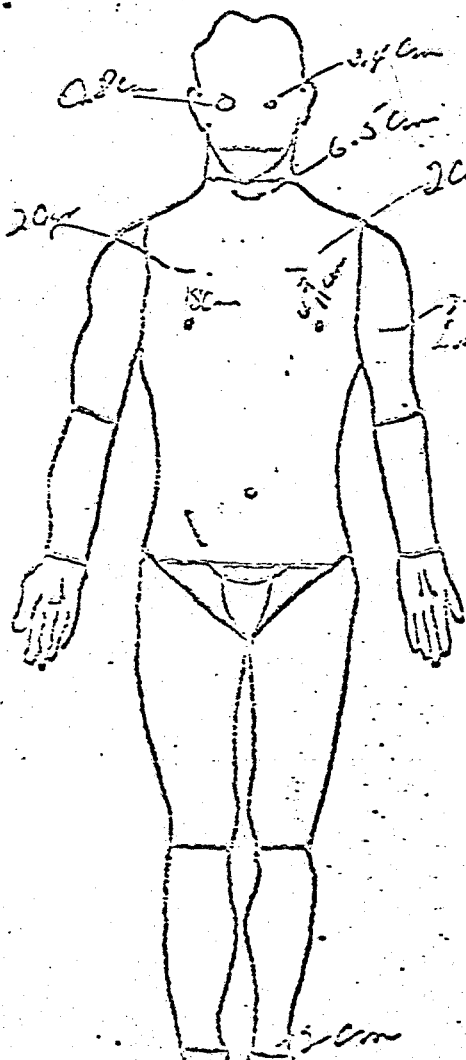
SPLEEN 90 HEART 750 THYROID _____

THYMUS _____ TESTIS _____ OVARY _____

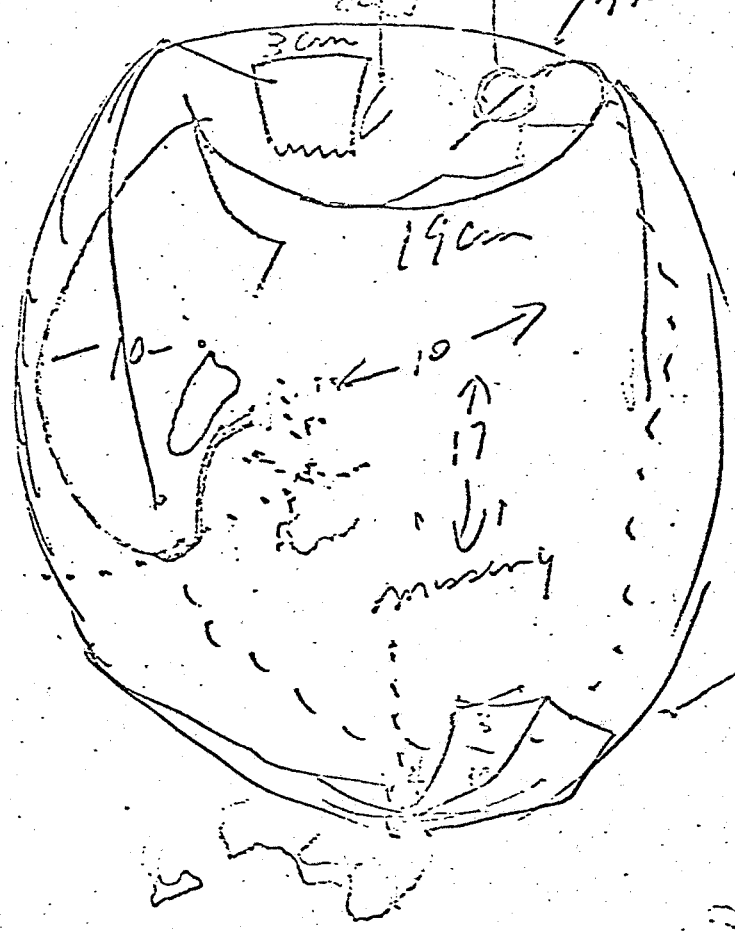
HEART MEASUREMENTS: A 7.5 cm. P 7 cm. T/A _____ cm. M 16 cm.

LVE 1.5 cm. RVM 4 cm.

NOTES:



Structure of roof floor



- The base from sagittal
- from this
- Coronal Suture leads

