

Medical Neuroscience

NOP-ANTR-RAD 552

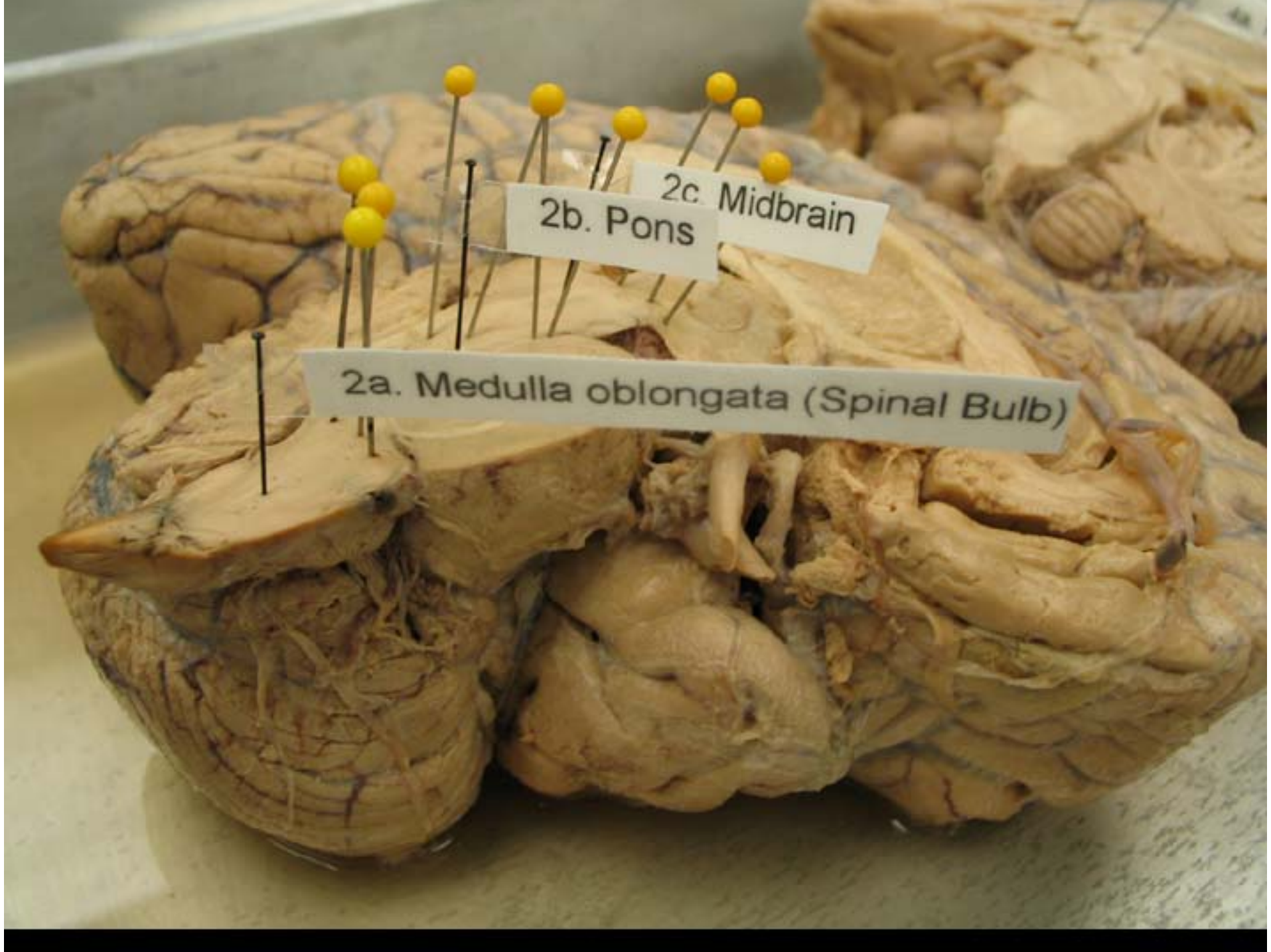
Gross Structure and

Blood Supply

LABORATORY OBJECTIVES

A close-up photograph of an anatomical dissection showing the spinal roots of a spinal nerve. The roots are visible as a dense, fibrous network of light brown and yellowish structures. A black suture is visible, used to hold open the dissection. A white label with black text is placed over the roots. The background is a textured, brownish surface, likely the underlying tissue or a dissection tray.

1a. Spinal roots of spinal ne

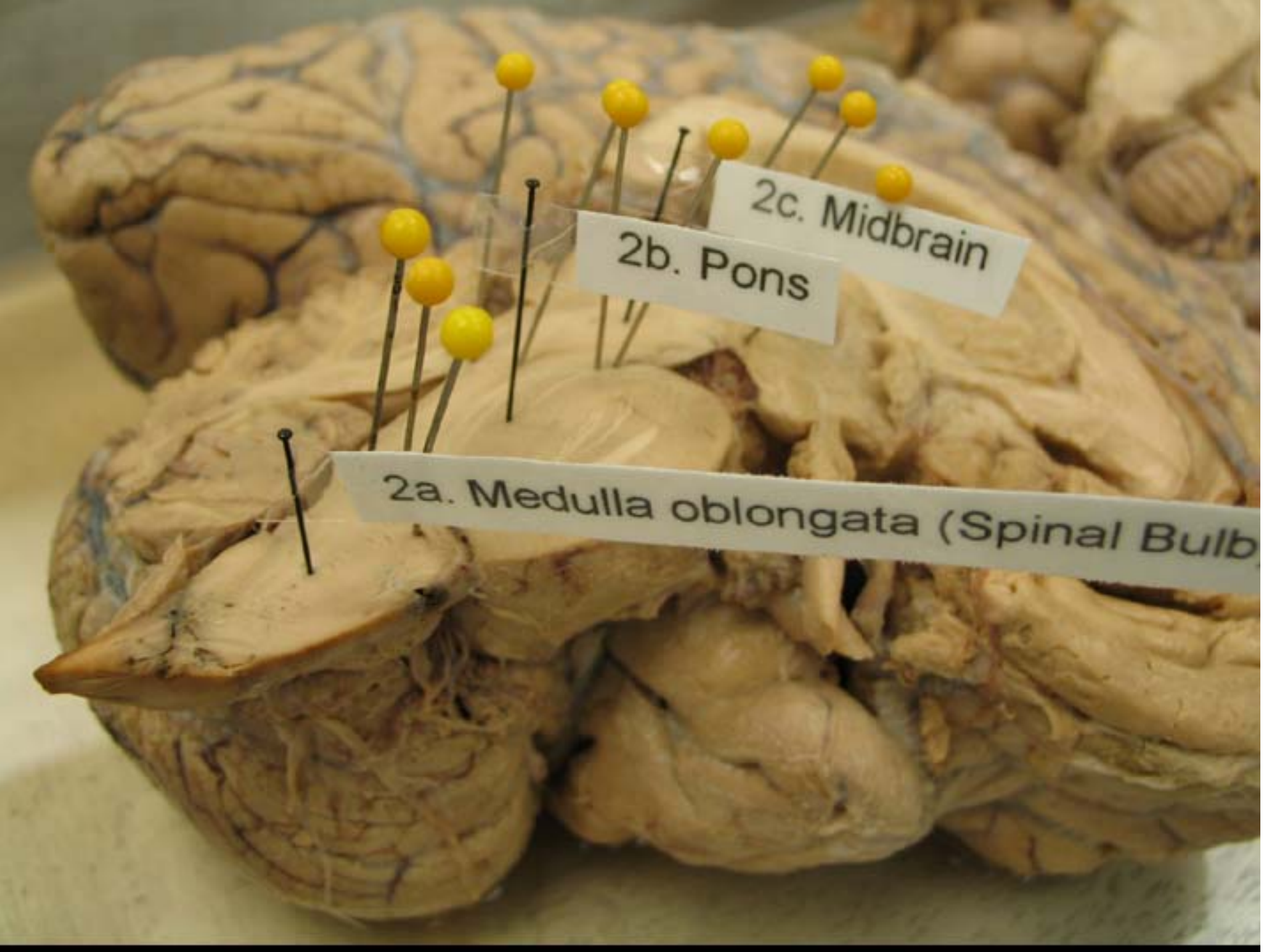


2a. Medulla oblongata (Spinal Bulb)

2b. Pons

2c. Midbrain

This image shows a detailed anatomical dissection of the brainstem, specifically the medulla oblongata, pons, and midbrain. The dissection is pinned open with several yellow-headed pins. The medulla oblongata is labeled as '2a. Medulla oblongata (Spinal Bulb)'. The pons is labeled as '2b. Pons'. The midbrain is labeled as '2c. Midbrain'. The dissection reveals the internal structure of these brain regions, including the cerebellum and the brainstem. The cerebellum is visible on the left side of the image, showing its characteristic folded surface. The brainstem is the central part of the image, showing the medulla, pons, and midbrain. The midbrain is the uppermost part of the brainstem, and the pons is the middle part. The medulla oblongata is the lowermost part of the brainstem, which transitions into the spinal cord. The dissection is performed on a light-colored surface, and the brain tissue is a pale, fleshy color.

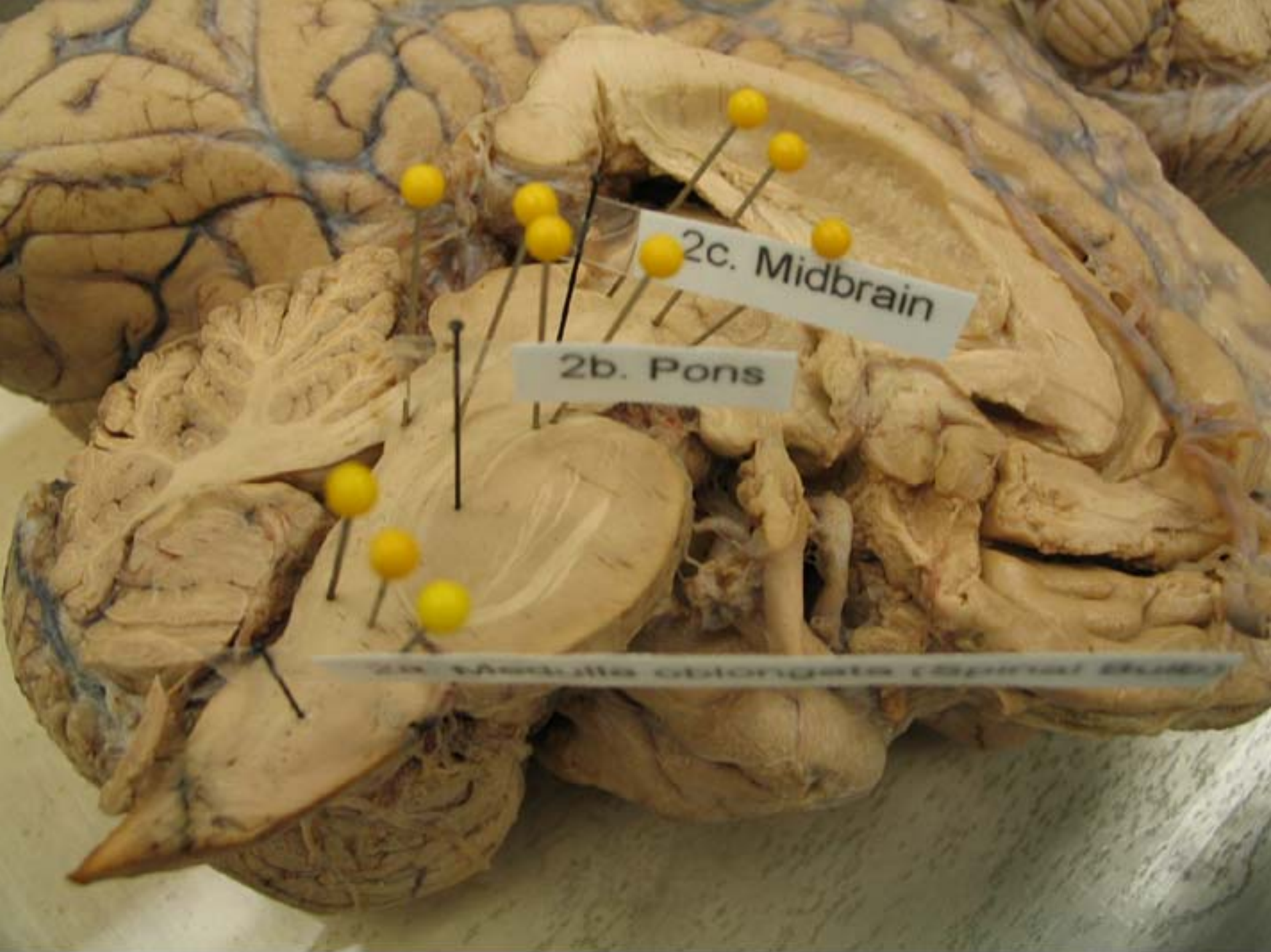


2a. Medulla oblongata (Spinal Bulb)

This image shows a detailed anatomical dissection of the brainstem. The medulla oblongata is the lowermost part, transitioning into the pons, which is a large, prominent bulge. Above the pons is the midbrain. The dissection is pinned open with several yellow-headed pins. Labels are placed over the corresponding structures to identify them.

2b. Pons

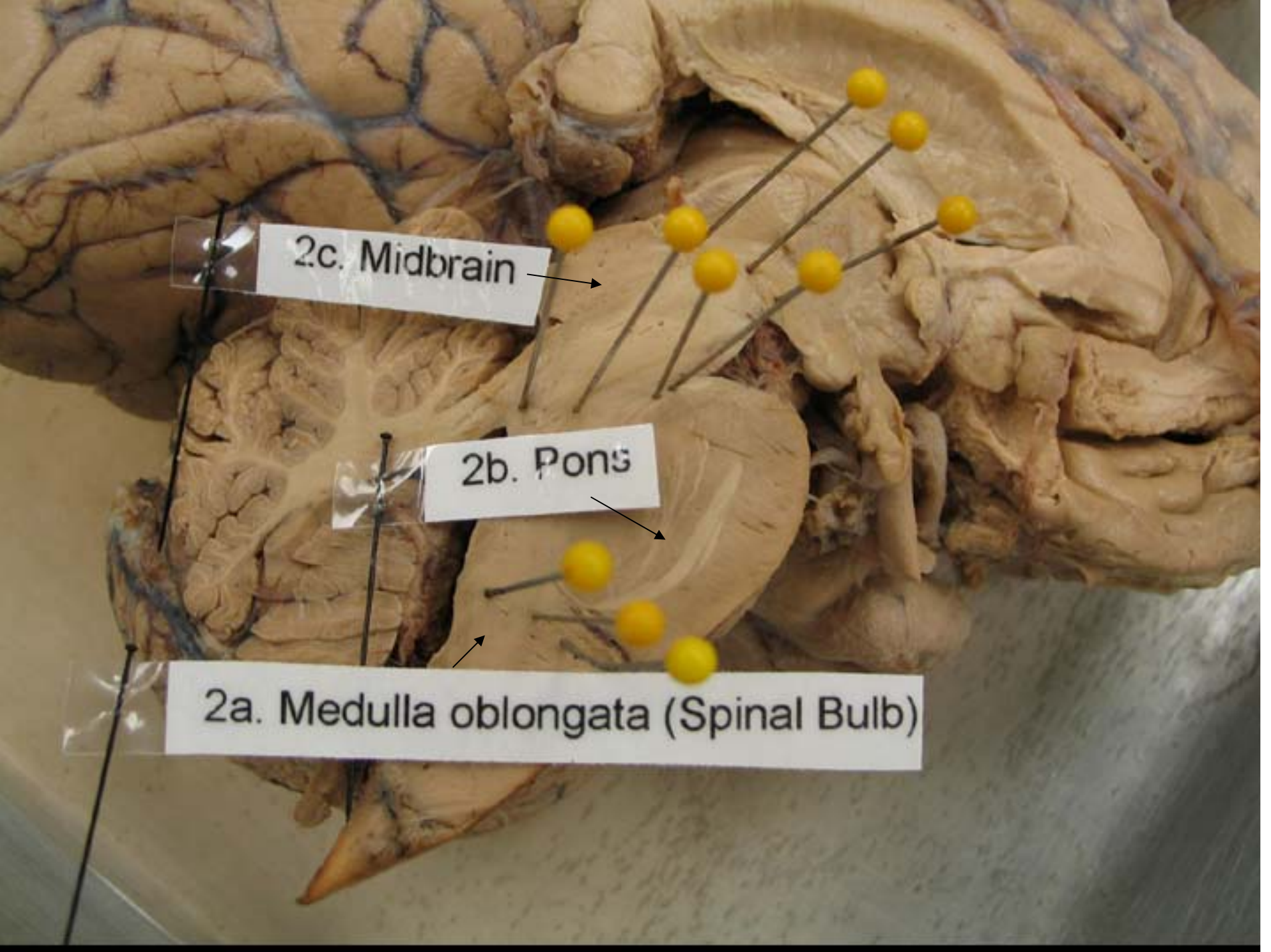
2c. Midbrain



2c. Midbrain

2b. Pons

2a. Medulla oblongata (Cephalic Bulb)



2c. Midbrain

This image shows a detailed anatomical dissection of the brainstem. The medulla oblongata (labeled 2a) is at the base, transitioning into the pons (labeled 2b), which has a prominent bulge. Above the pons is the midbrain (labeled 2c). The dissection is held open with several metal pins, each topped with a yellow ball. The surrounding tissue, including the cerebellum and cranial meninges, is visible in the background.

2b. Pons

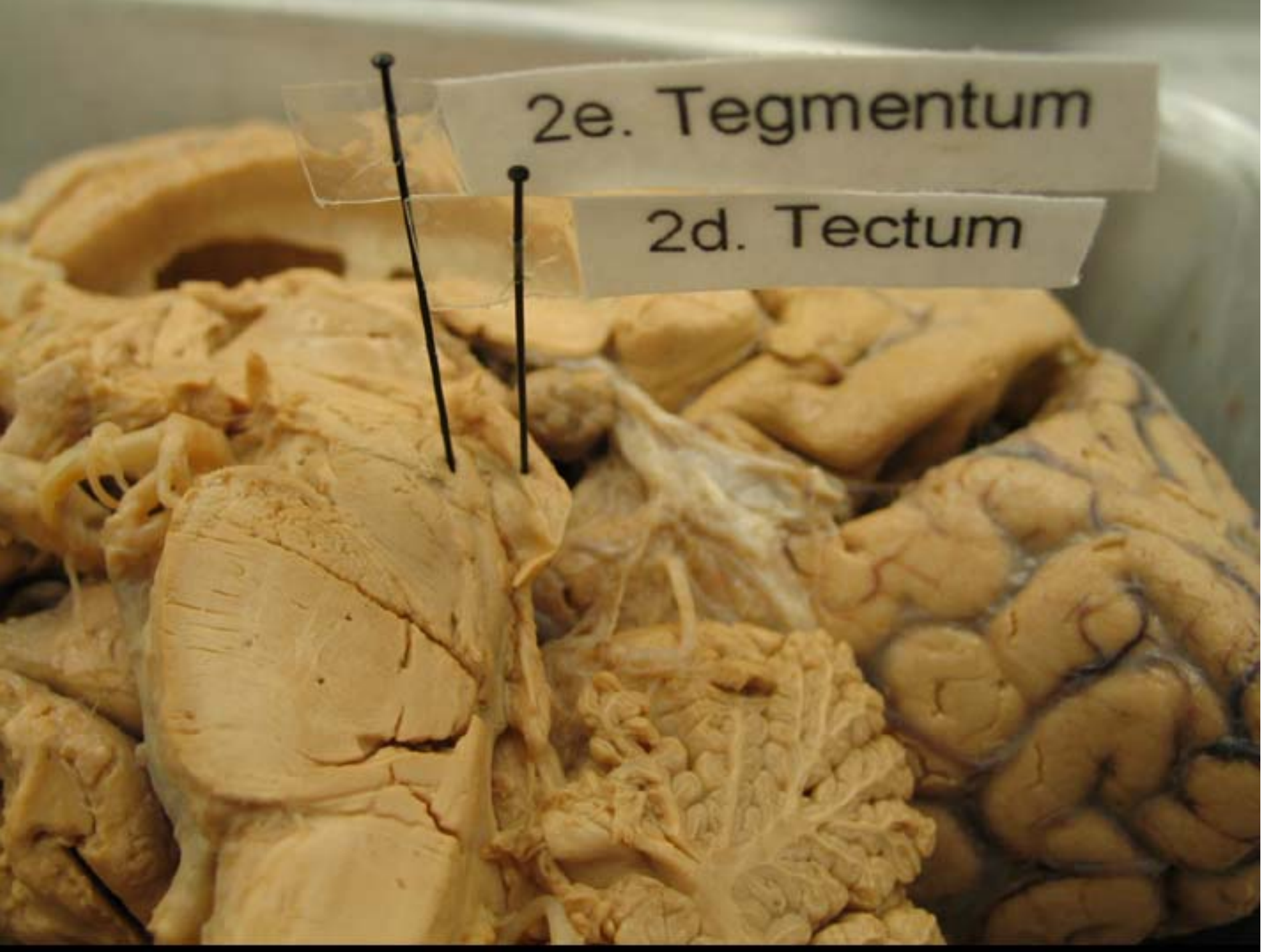
2a. Medulla oblongata (Spinal Bulb)



2e. *Tegmentum*

This image shows a detailed anatomical dissection of a brainstem section, likely from a rodent. The tissue is light tan and shows various internal structures. Two black pins are used to hold open the dissection. Two white labels with black text are placed above the tissue. The label '2e. Tegmentum' is positioned slightly higher and further to the right than the label '2d. Tectum'. The 'Tegmentum' label points to a specific area of the brainstem, while the 'Tectum' label points to a more anterior and ventral structure. The background is a plain, light-colored surface.

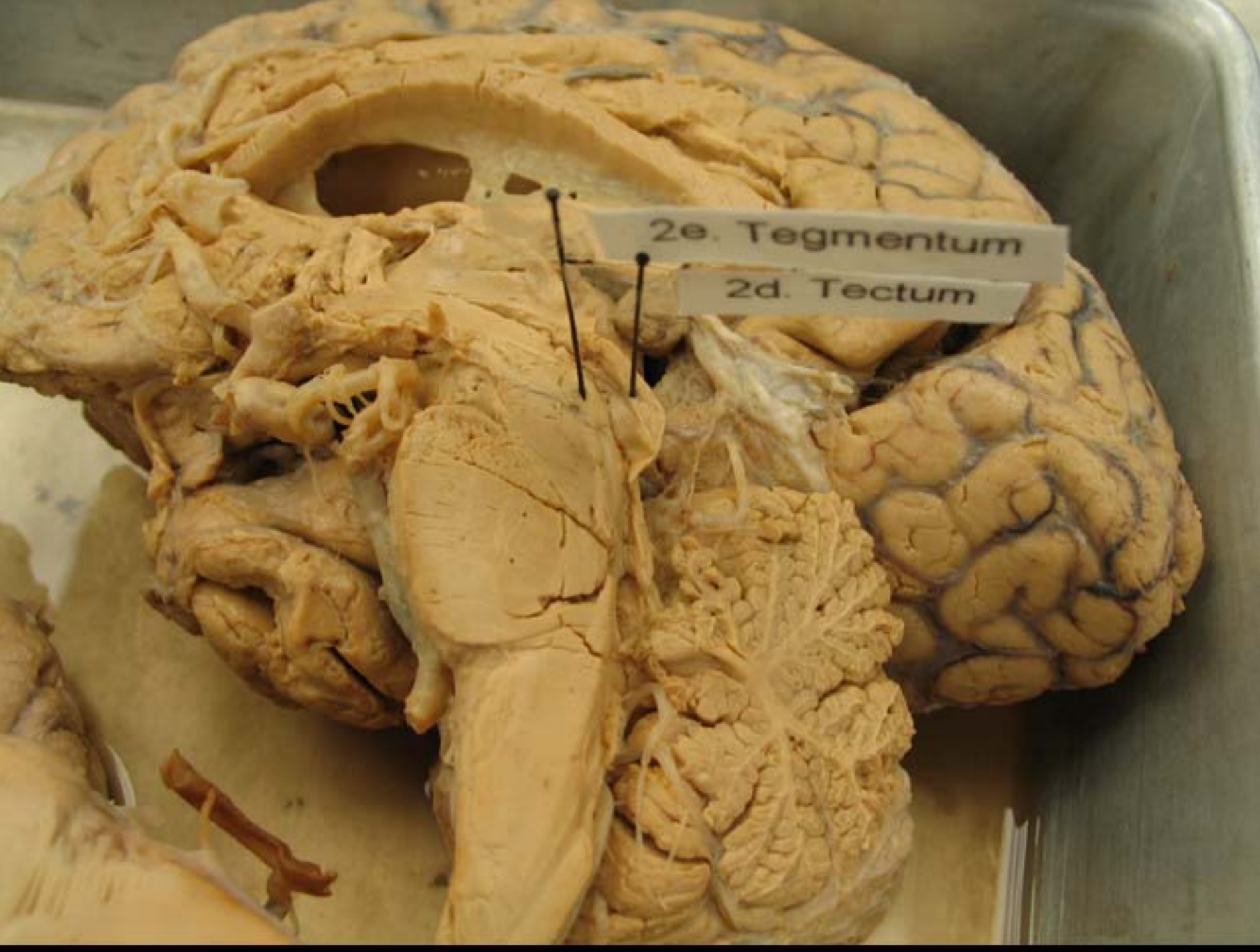
2d. *Tectum*



2e. Tegmentum

This image shows a detailed anatomical dissection of the midbrain region of a brain specimen. Two black pins are used to hold open the tissue. The label '2e. Tegmentum' points to the large, pale, and somewhat fibrous structure on the left. The label '2d. Tectum' points to a smaller, more rounded structure just below and to the right of the tegmentum. The surrounding tissue shows various other structures, including what appears to be the cerebral peduncle and the tectal plate, with visible blood vessels and a complex network of fibers.

2d. Tectum



2e. Tegmentum

2d. Tectum



2d2. Inferior Colliculi

2d1. Superior Colliculi



2d2. Inferior Colliculi

2d1. Superior Colliculi

3a. Cortex

3b. White matter



3b. White matter

3a. Cortex



3c. Deep nuclei

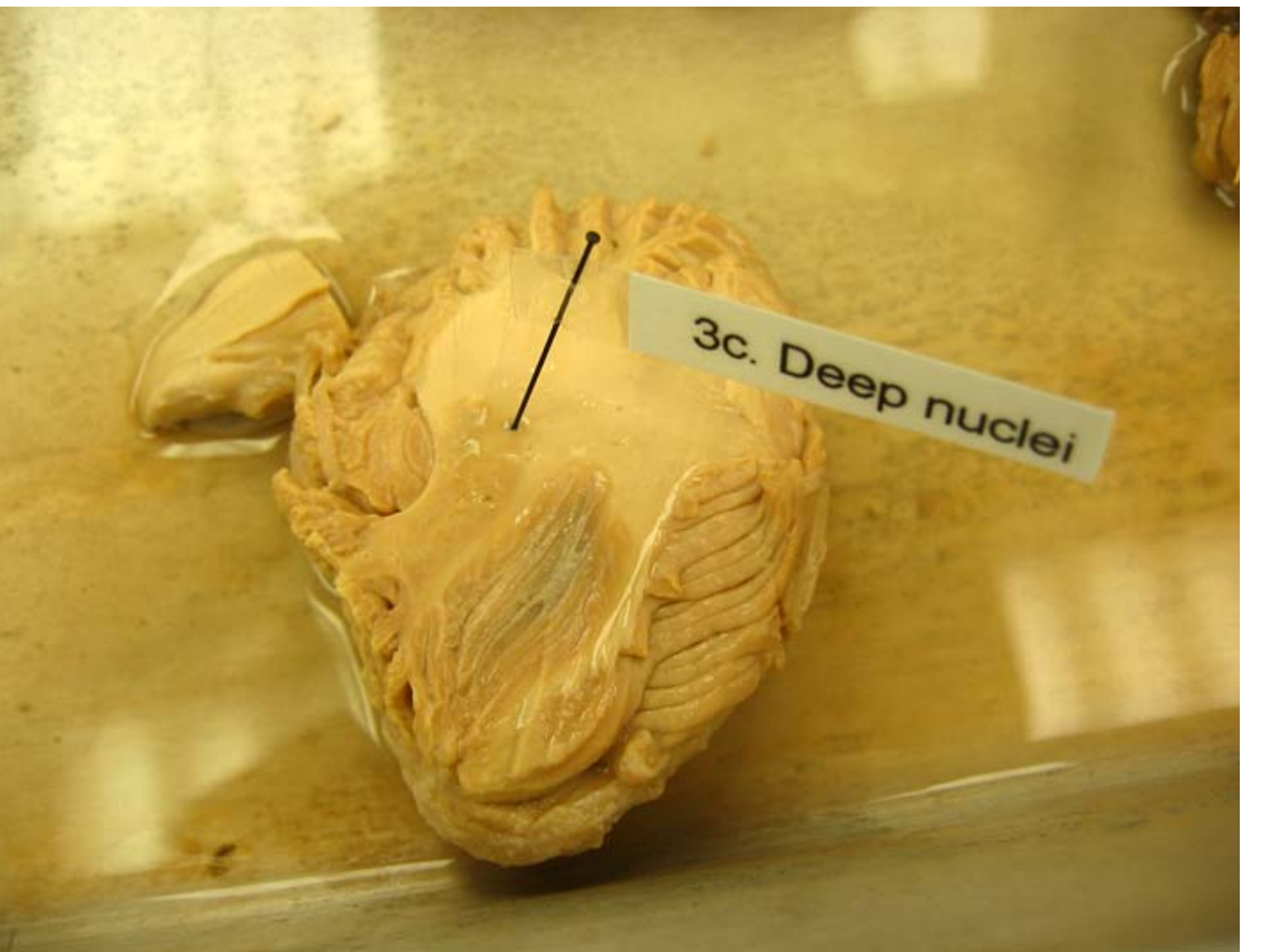


3c. Deep nuclei



3c. Deep





3c. Deep nuclei

This image shows a coronal section of a human brain specimen, likely from a cadaver, resting on a light-colored surface. A black pointer line originates from a small white label that reads '3c. Deep nuclei'. The pointer indicates a specific region within the brain's internal structures, which appear as lighter, more homogeneous areas compared to the surrounding, more textured and folded cerebral cortex. The brain tissue is a pale, yellowish-tan color, and the overall structure is symmetrical, showing the characteristic folding of the cerebral hemispheres.

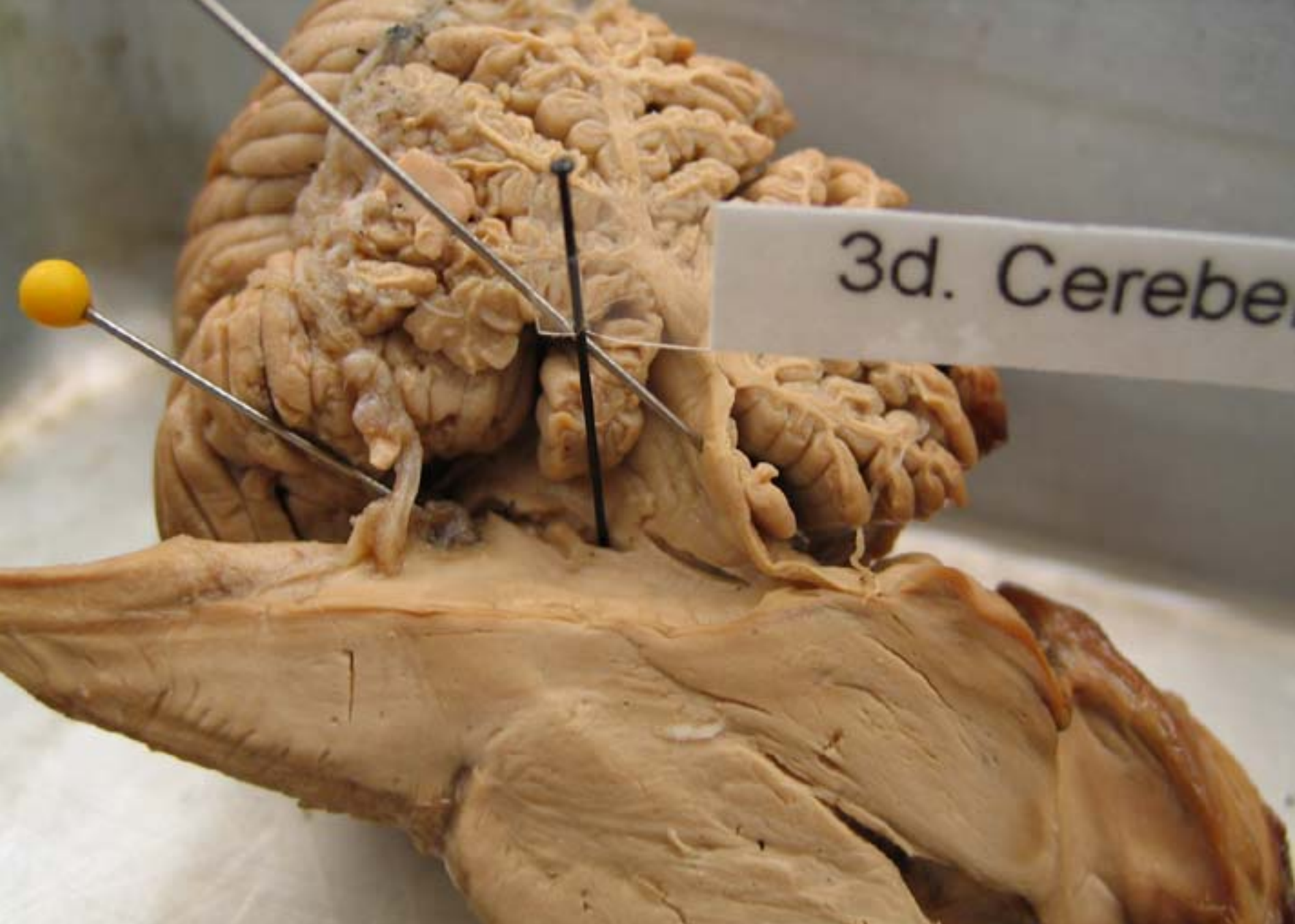


3c. Deep nuclei

3a.



3d. Yellow pins mark the inferior and superior peduncles.



3d. Yellow pins mark the inferior and superior peduncles.

3d. Cerebellar peduncles

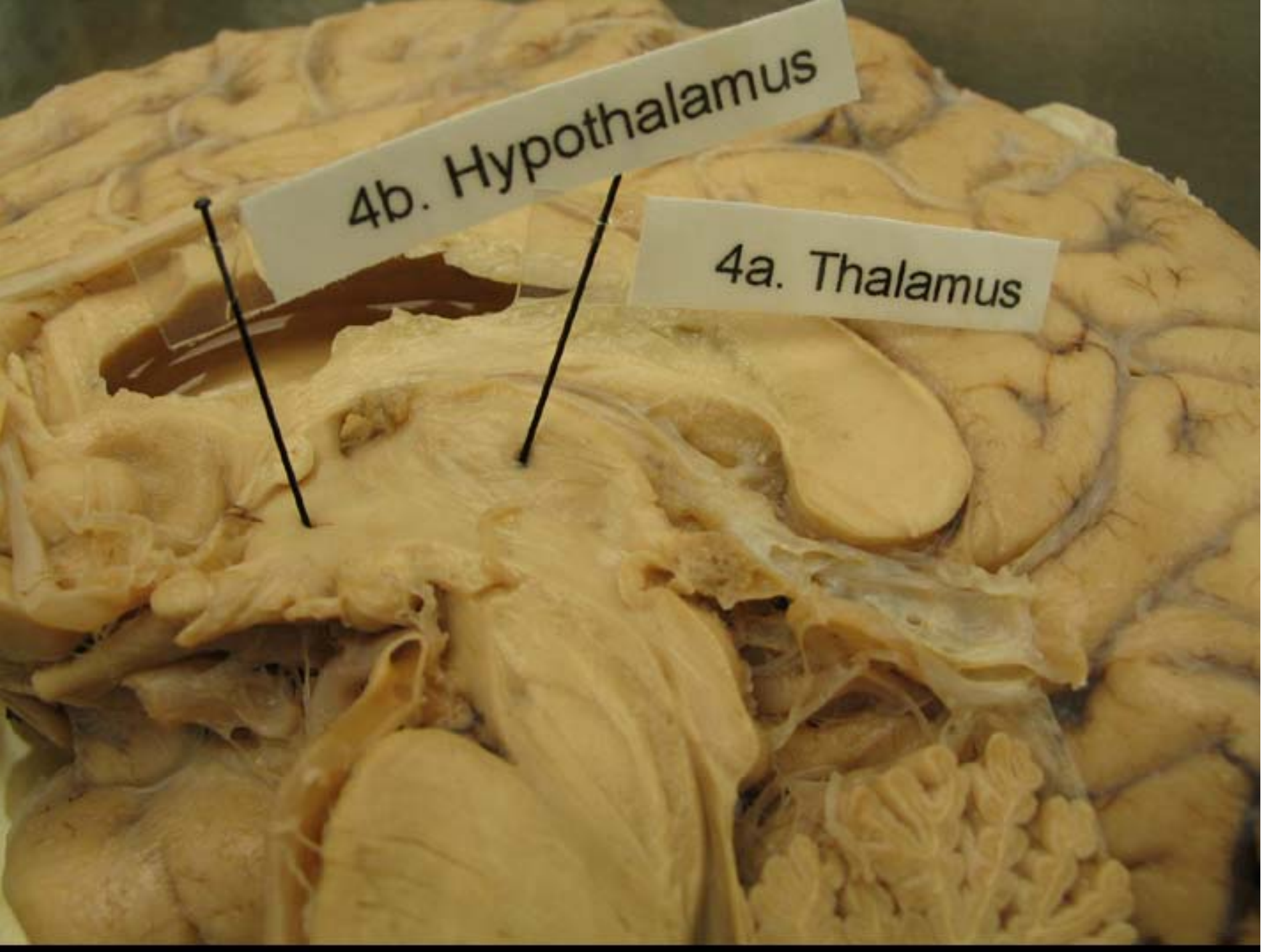


3d. Yellow pin marks the middle peduncle

3d. Cerebellar peduncles



3d. Yellow pin marks the middle peduncle



4b. Hypothalamus

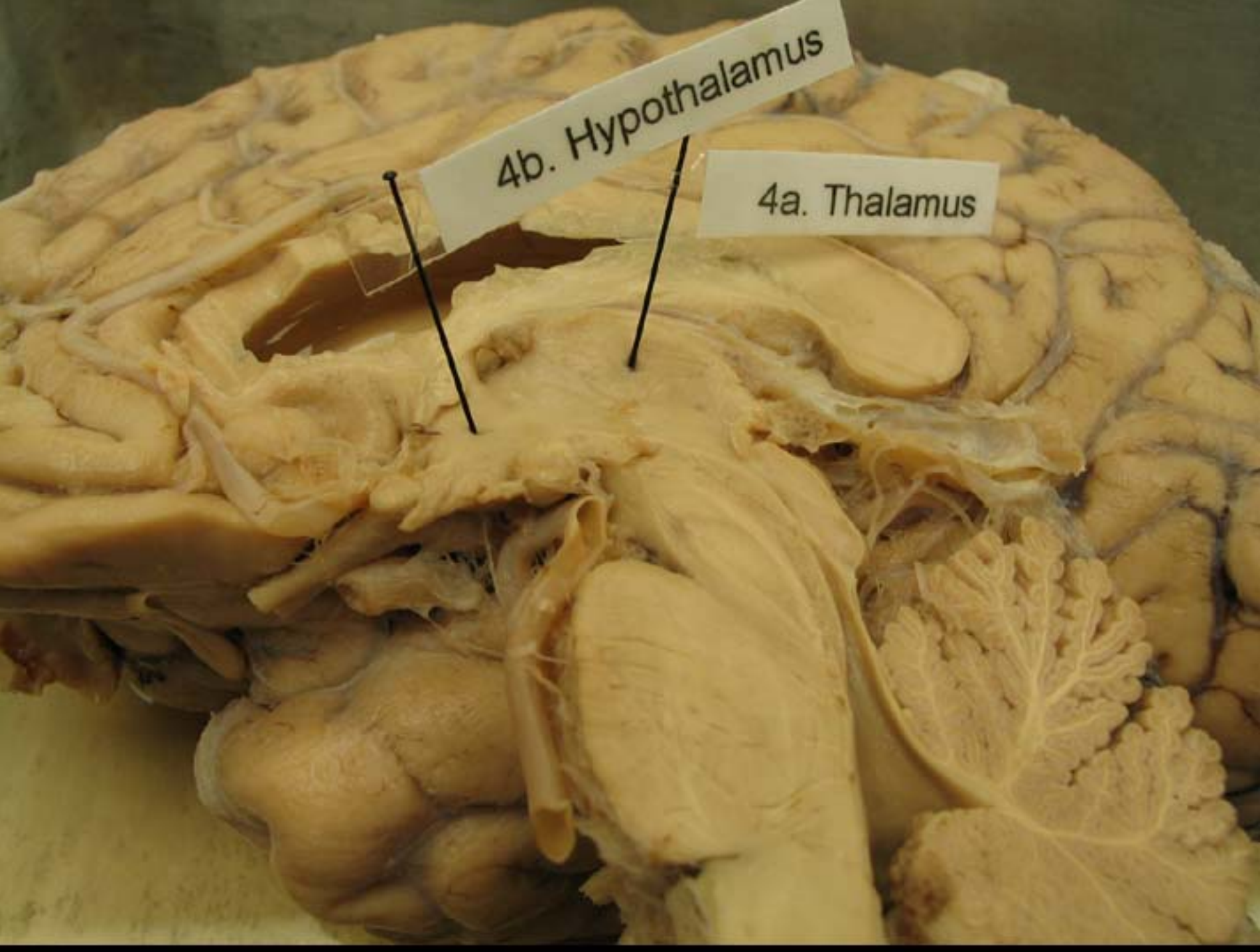
This image shows a detailed anatomical dissection of the base of the human brain. The hypothalamus is exposed, showing its complex internal structure and its relationship with the surrounding brain tissue. A black pin is used to hold back the overlying structures, providing a clear view of the hypothalamus. The thalamus is also visible, situated posterior to the hypothalamus. The dissection is performed on a preserved specimen, likely a cadaver, which has been stained to highlight the various components of the brain.

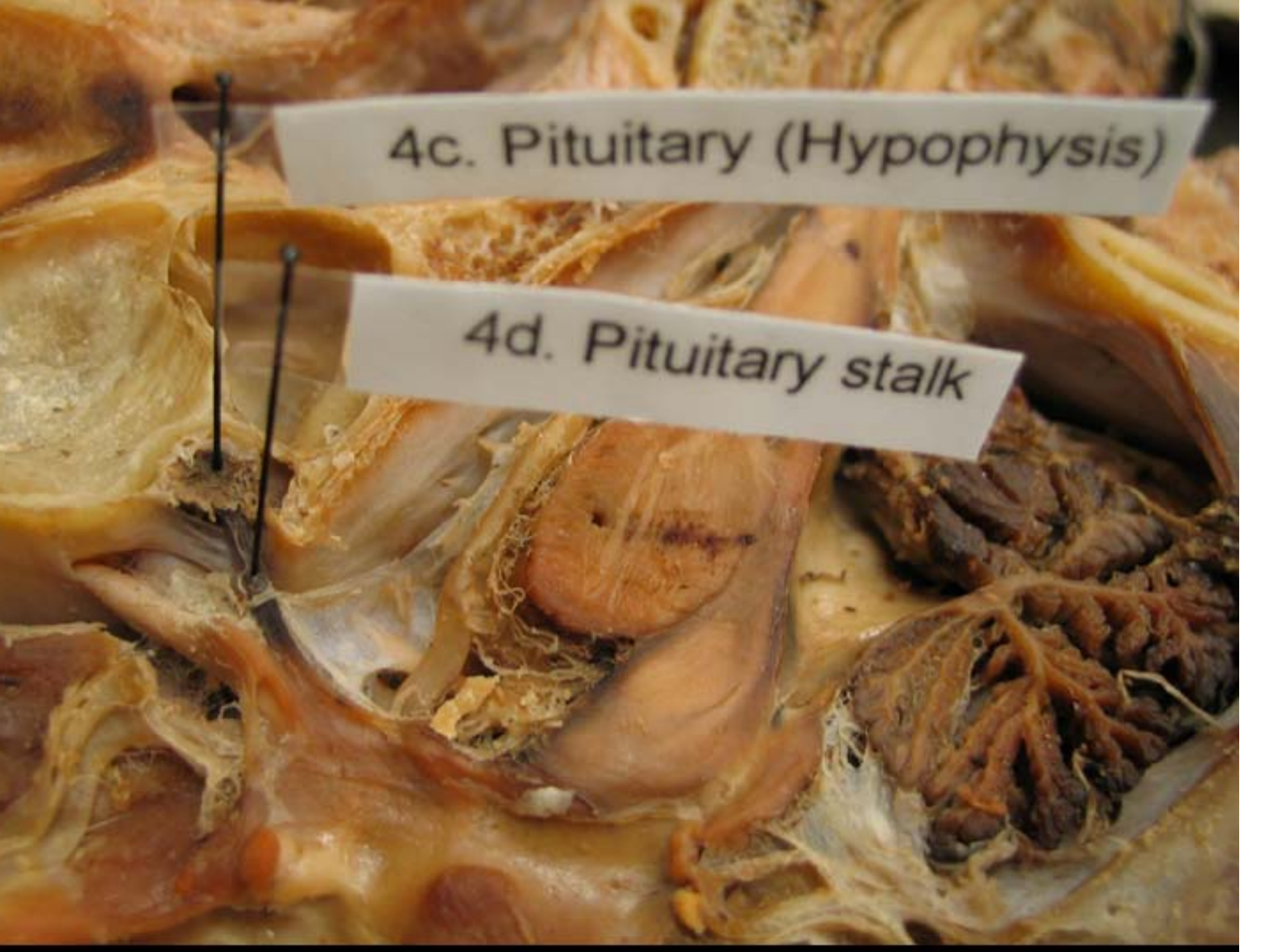
4a. Thalamus

This image shows a detailed anatomical dissection of the base of the human brain. The thalamus is exposed, showing its characteristic almond-like shape and its internal structure. A black pin is used to hold back the overlying structures, providing a clear view of the thalamus. The hypothalamus is also visible, situated anterior to the thalamus. The dissection is performed on a preserved specimen, likely a cadaver, which has been stained to highlight the various components of the brain.

4b. Hypothalamus

4a. Thalamus





4c. Pituitary (Hypophysis)

This image shows a detailed anatomical dissection of the pituitary gland and its stalk. The pituitary gland is a small, pea-sized structure located at the base of the brain. It is shown in a cross-section, revealing its internal structure. The stalk, which connects the gland to the hypothalamus, is also visible. The surrounding tissue is yellowish and fibrous. Two black pins are used to hold the dissection open. A white label with black text is placed above the gland, and another white label with black text is placed above the stalk. The overall appearance is that of a well-preserved anatomical specimen.

4d. Pituitary stalk

4d. Pituitary stain

4c. Pituitary (Hypophysis)



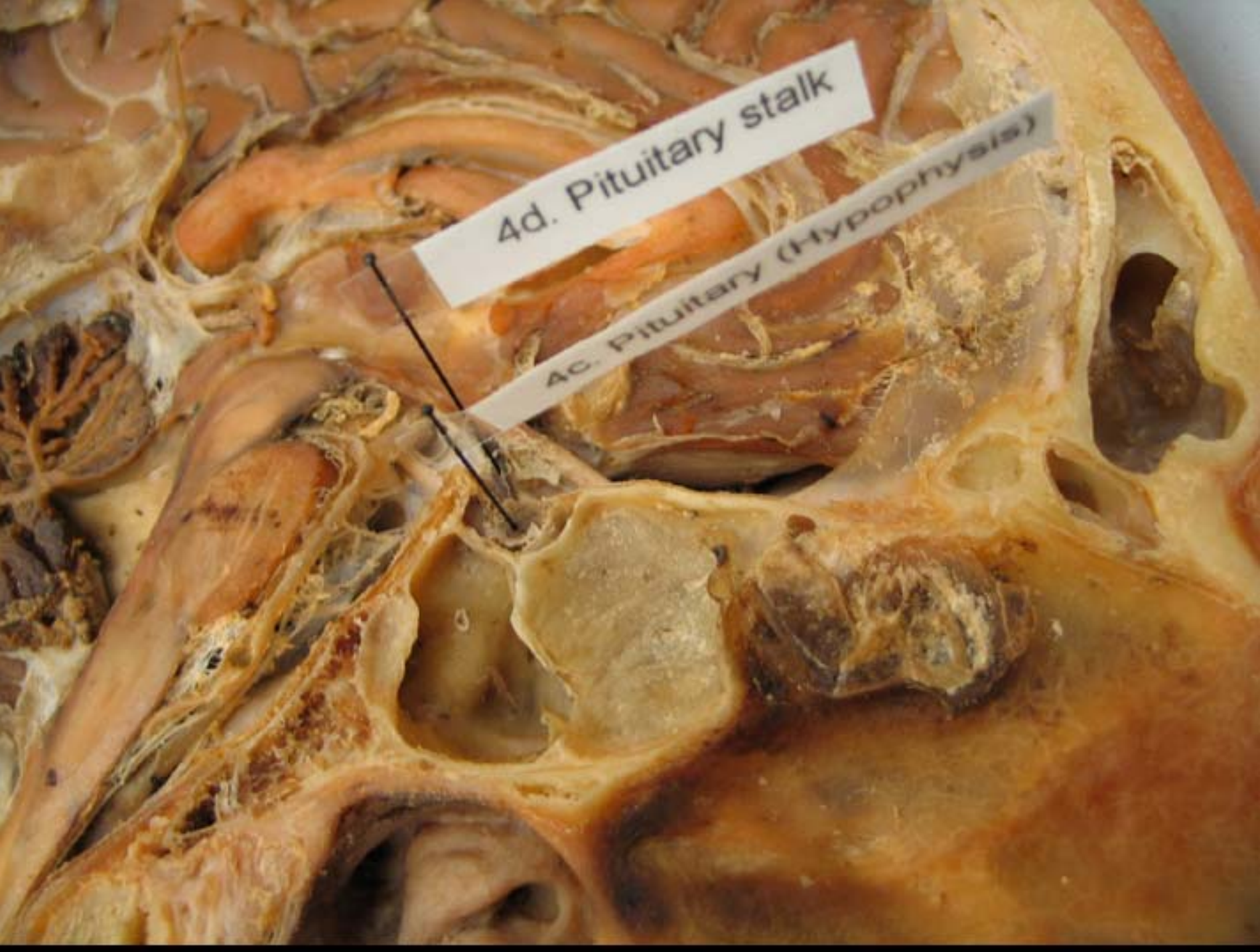
4d. Pituitary stain

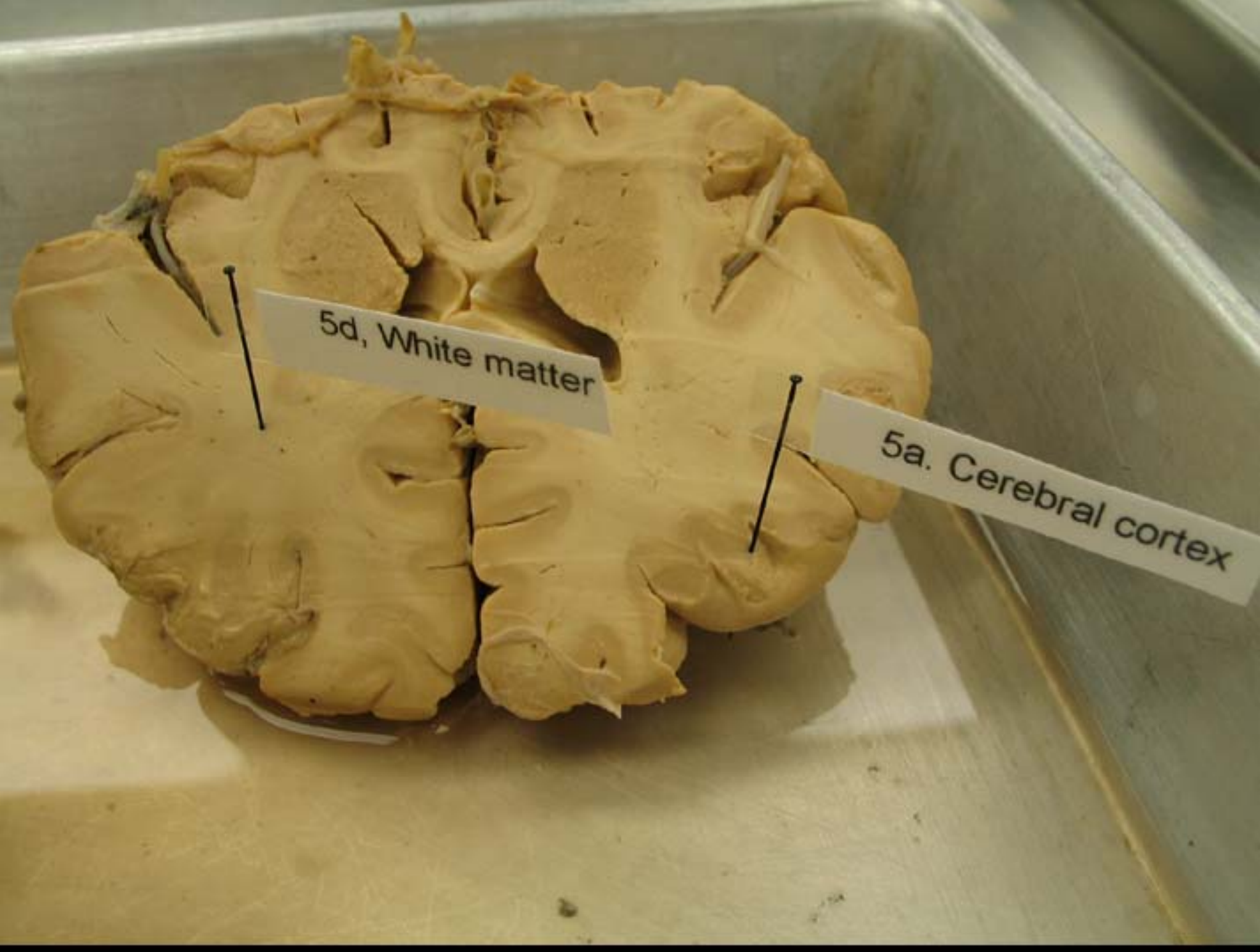
4c. Pituitary (Hypophysis)



4d. Pituitary stalk

Ac. Pituitary (Hypophysis)



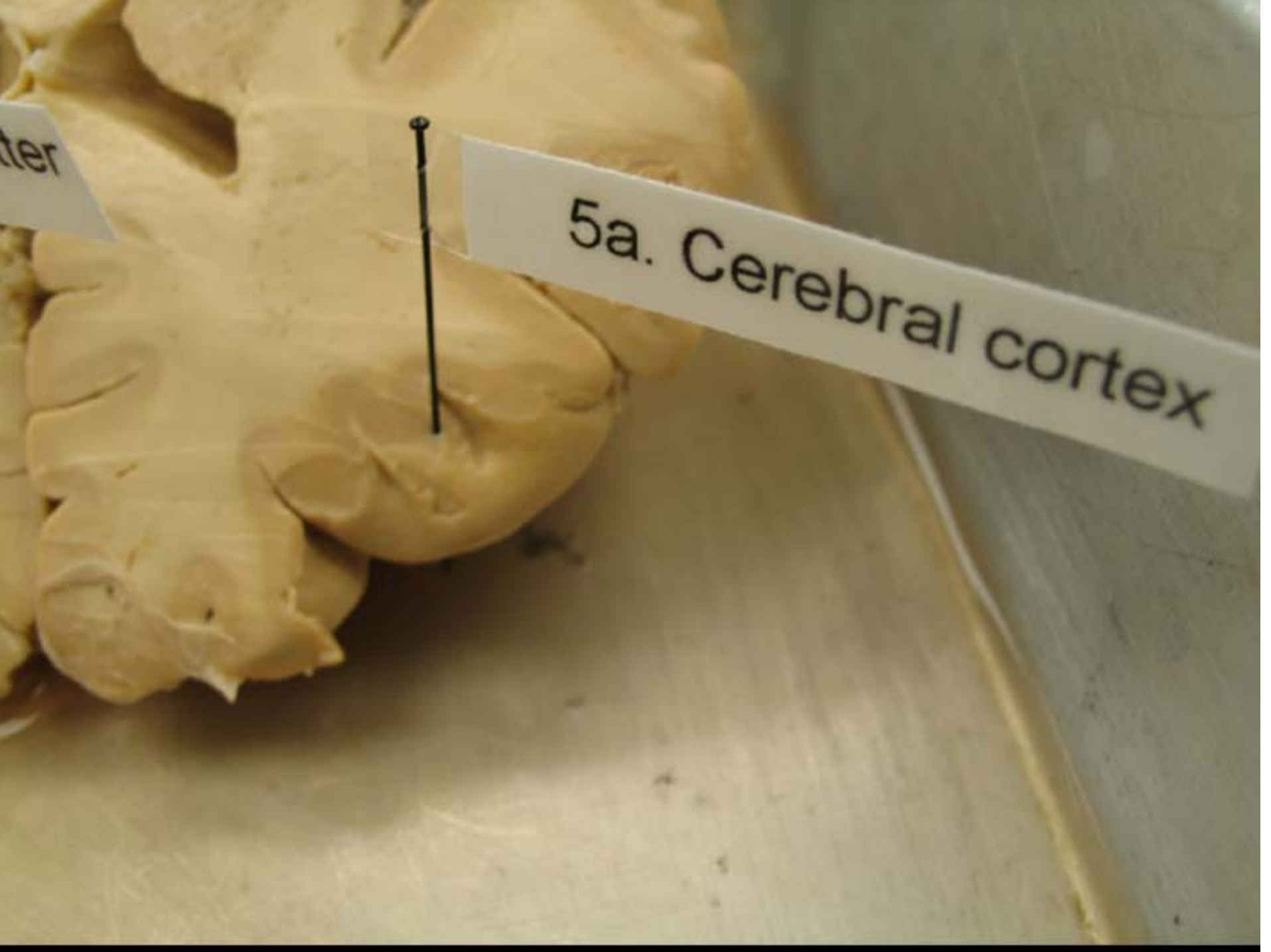


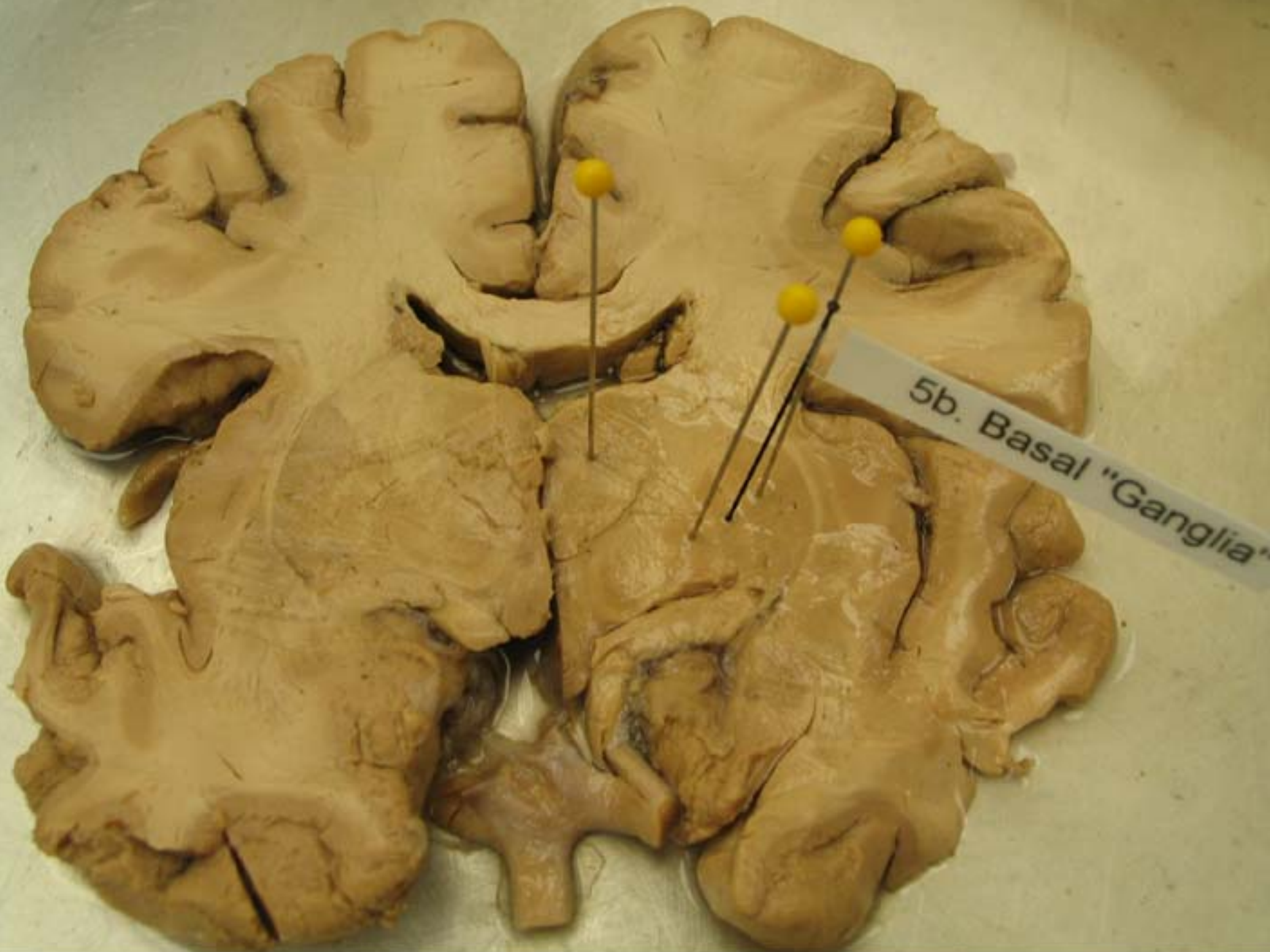
5d, White matter

5a. Cerebral cortex

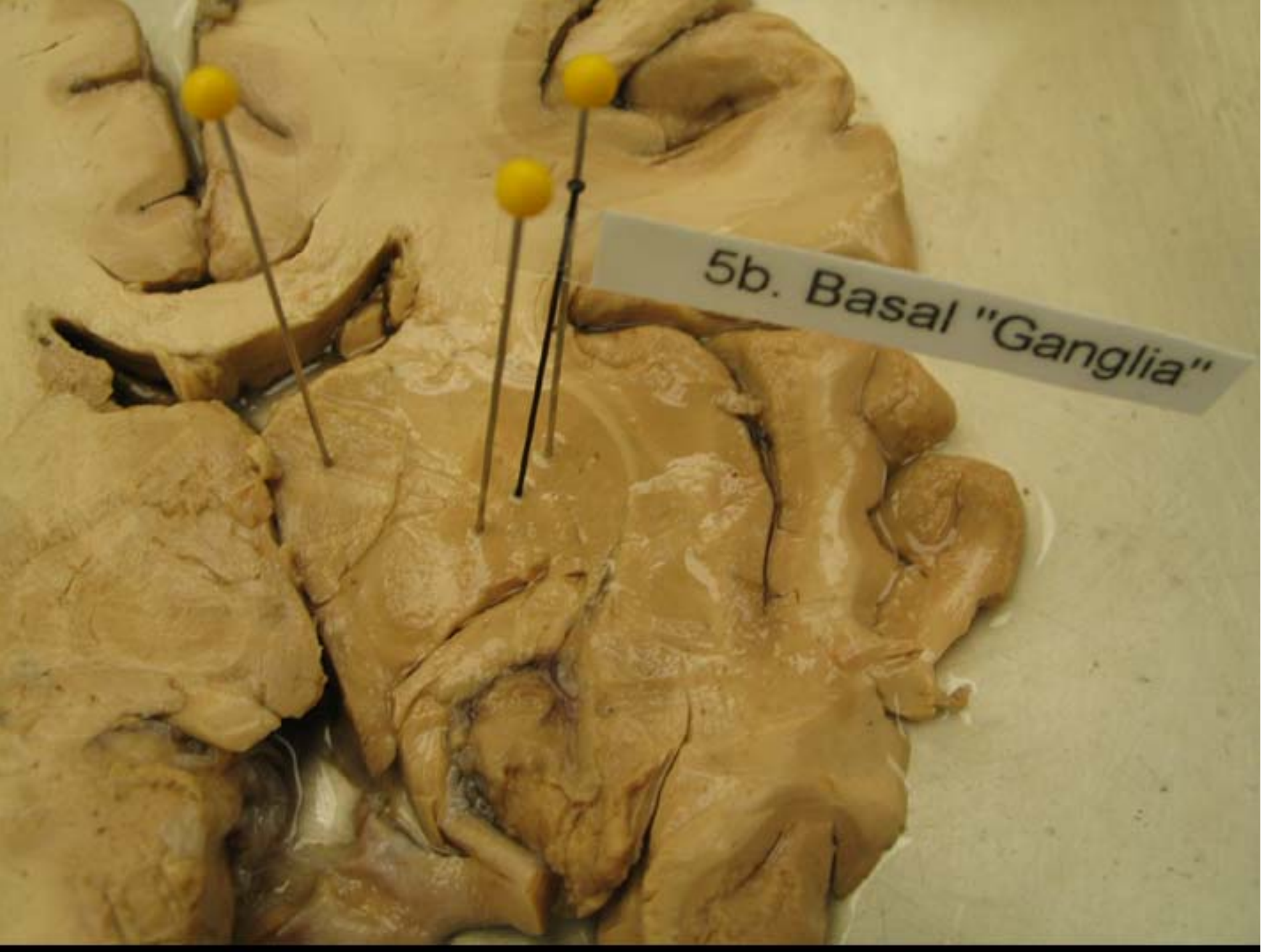
ter

5a. Cerebral cortex





5b. Basal "Ganglia"

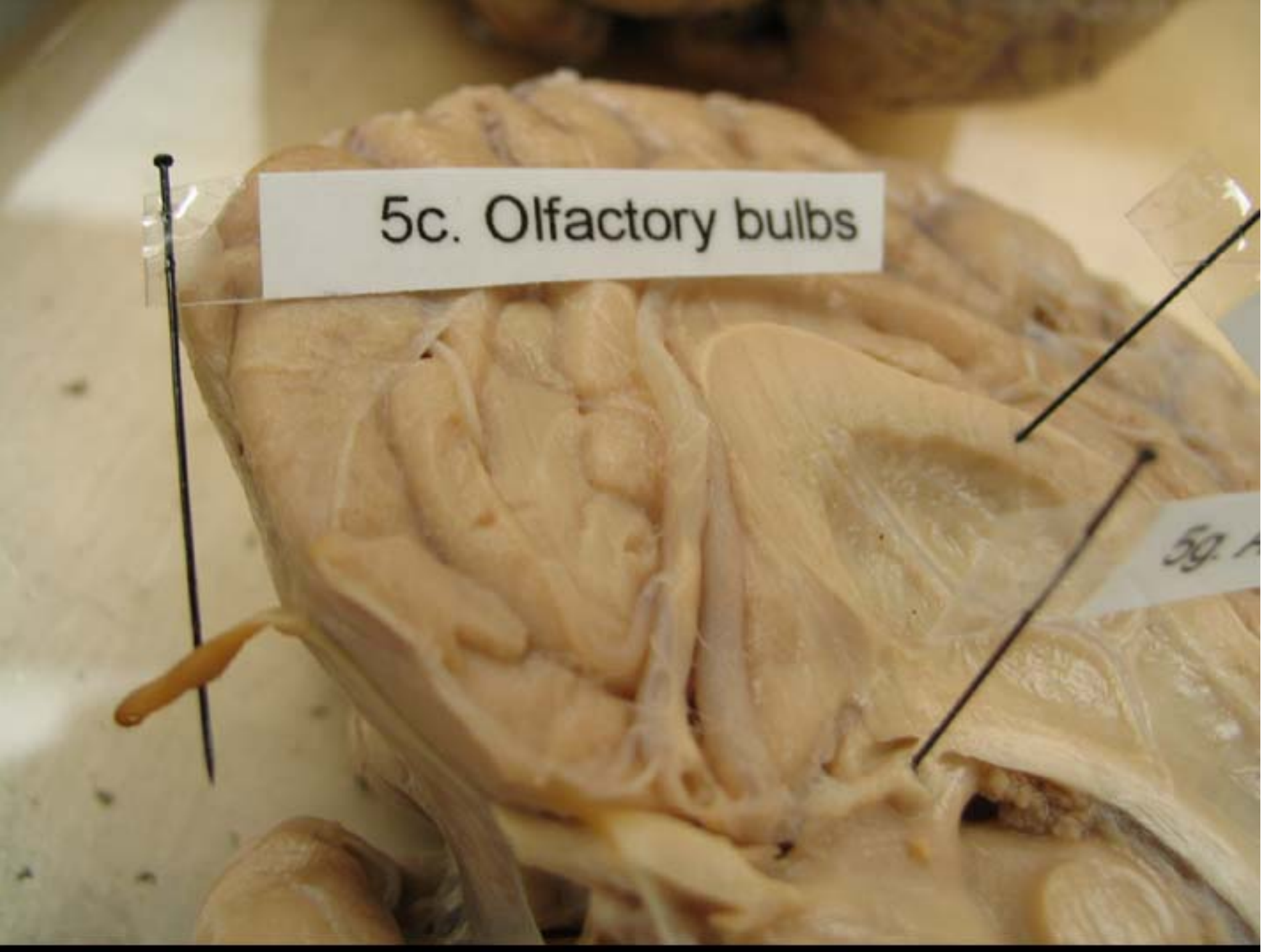


5b. Basal "Ganglia"

This image shows a coronal section of a human brain specimen. Several anatomical pins with yellow heads are used to hold the tissue open. A white label with black text is placed on the right side of the specimen. The brain tissue is light tan and shows various internal structures, including what appears to be the basal ganglia region.

5c. Olfactory bulbs

5g. A





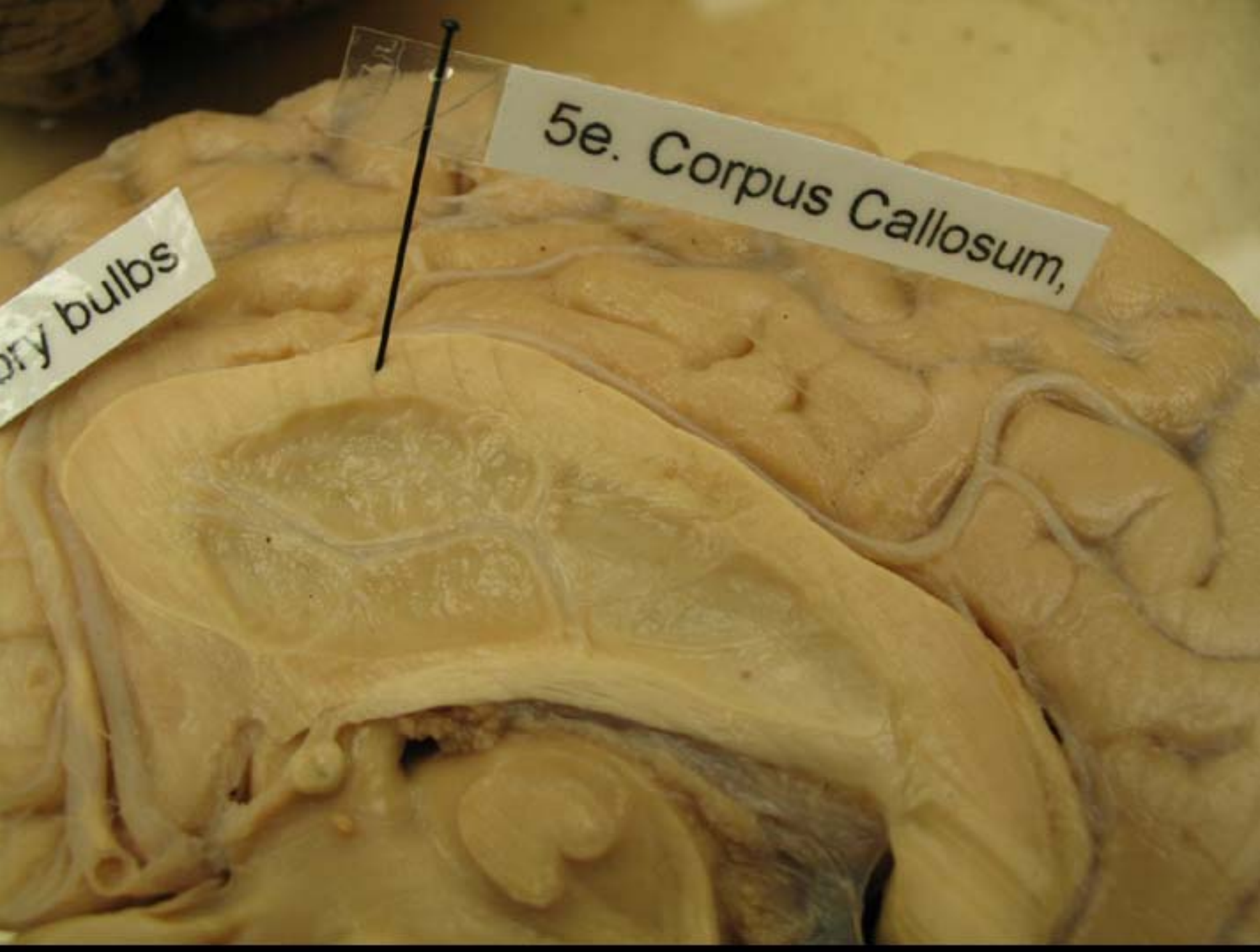
5d, White matter

A coronal section of a human brain specimen is shown. The brain tissue is a pale, yellowish-tan color. A black pin is inserted into the tissue, holding a small white rectangular label. The label has the text '5d, White matter' printed on it. The brain section shows various gyri and sulci, with the white matter being the primary focus of the label.

5d, White matter

ory bulbs

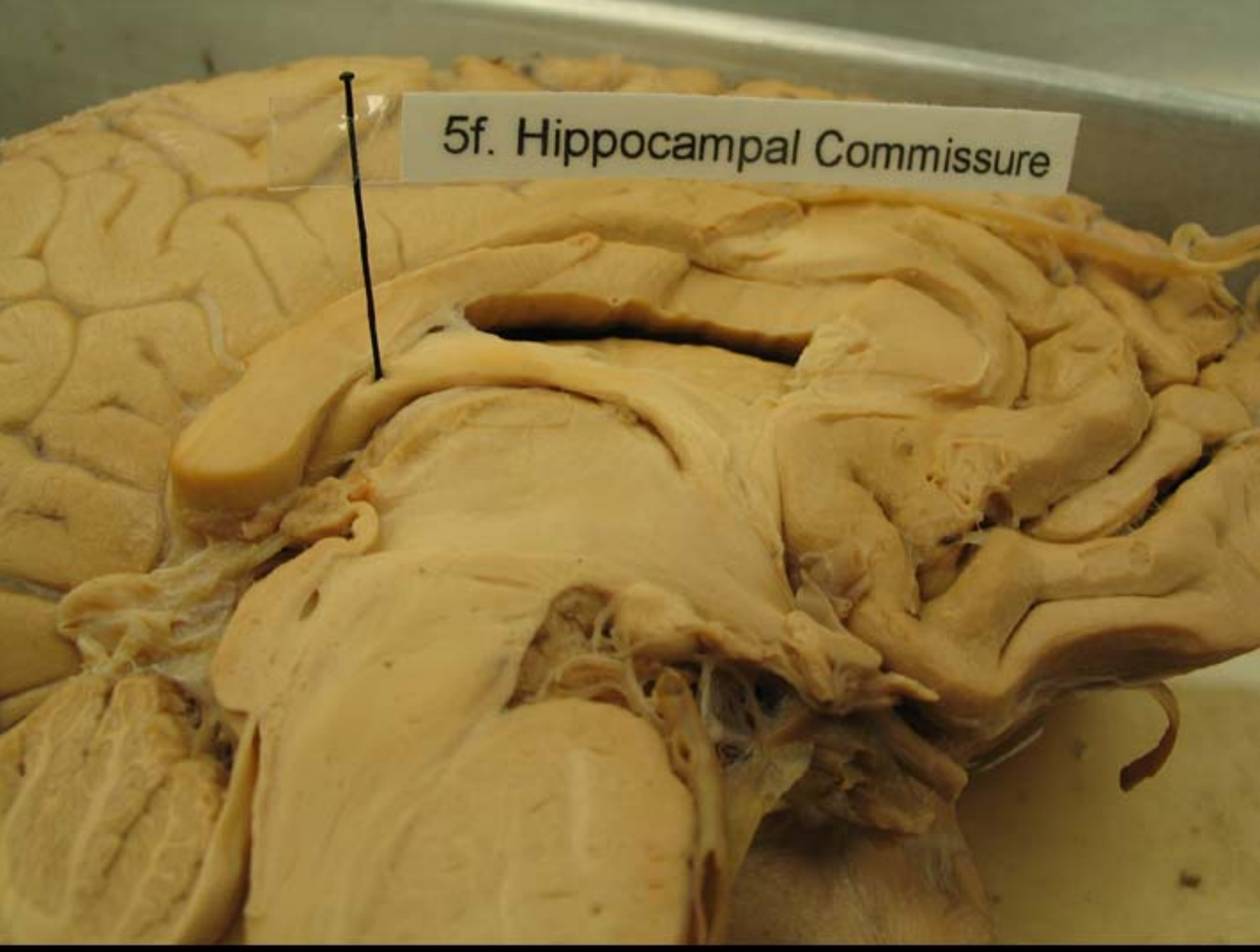
5e. Corpus Callosum,



5f. Hippocampal Commissure



5f. Hippocampal Commissure



5f. Hippocampal Commissure

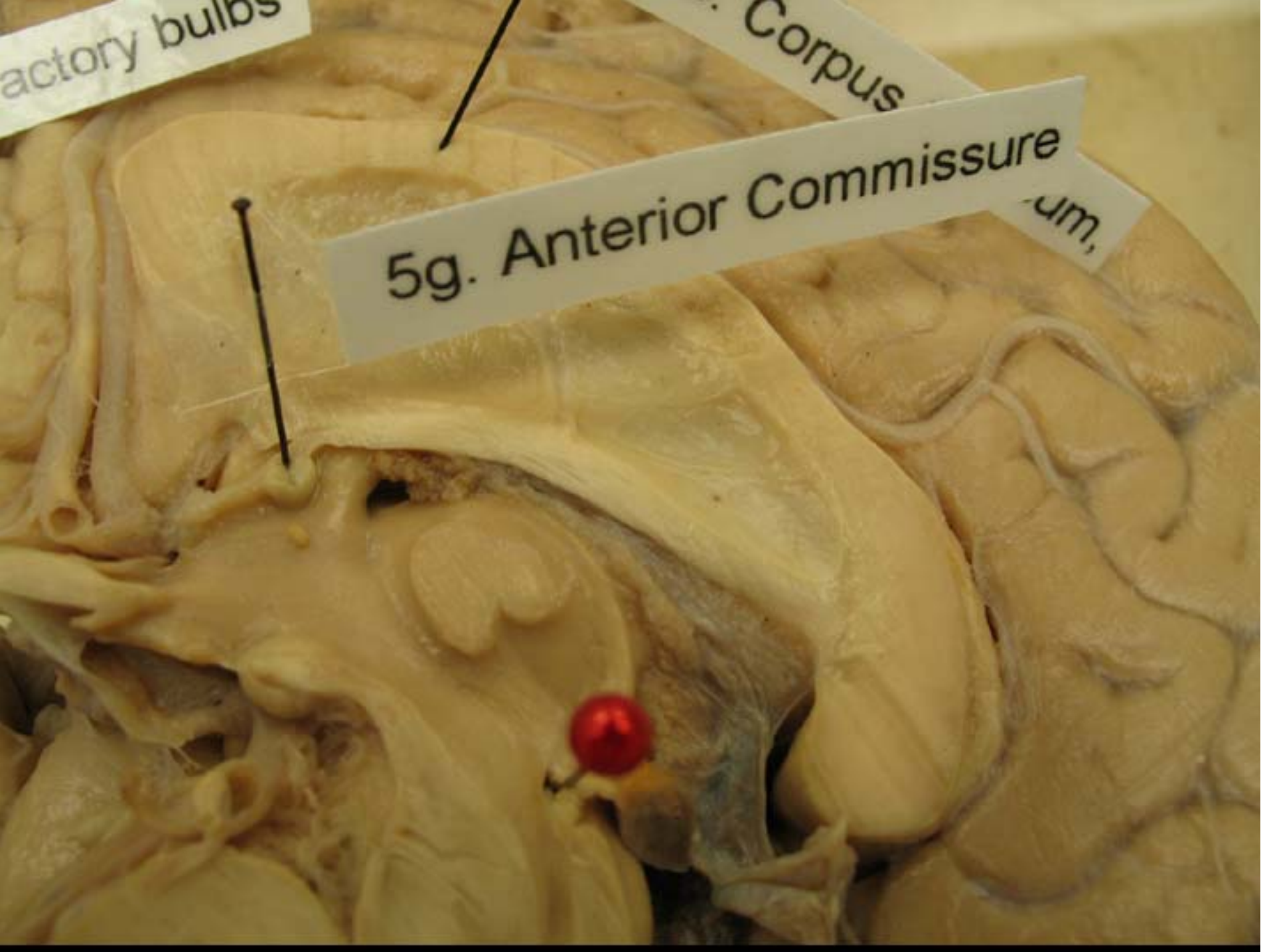


actory bulbs

Corpus

5g. Anterior Commissure

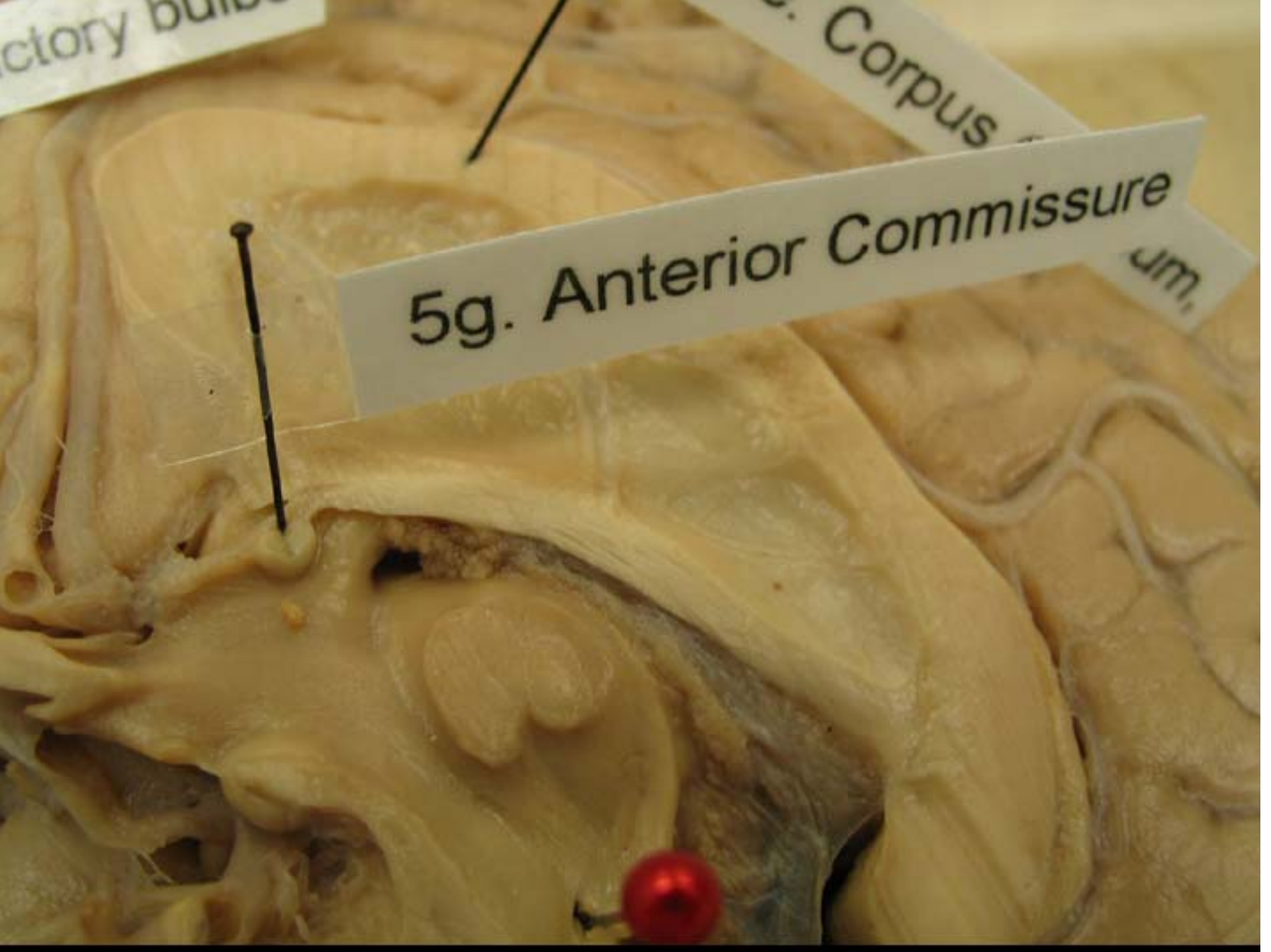
um,



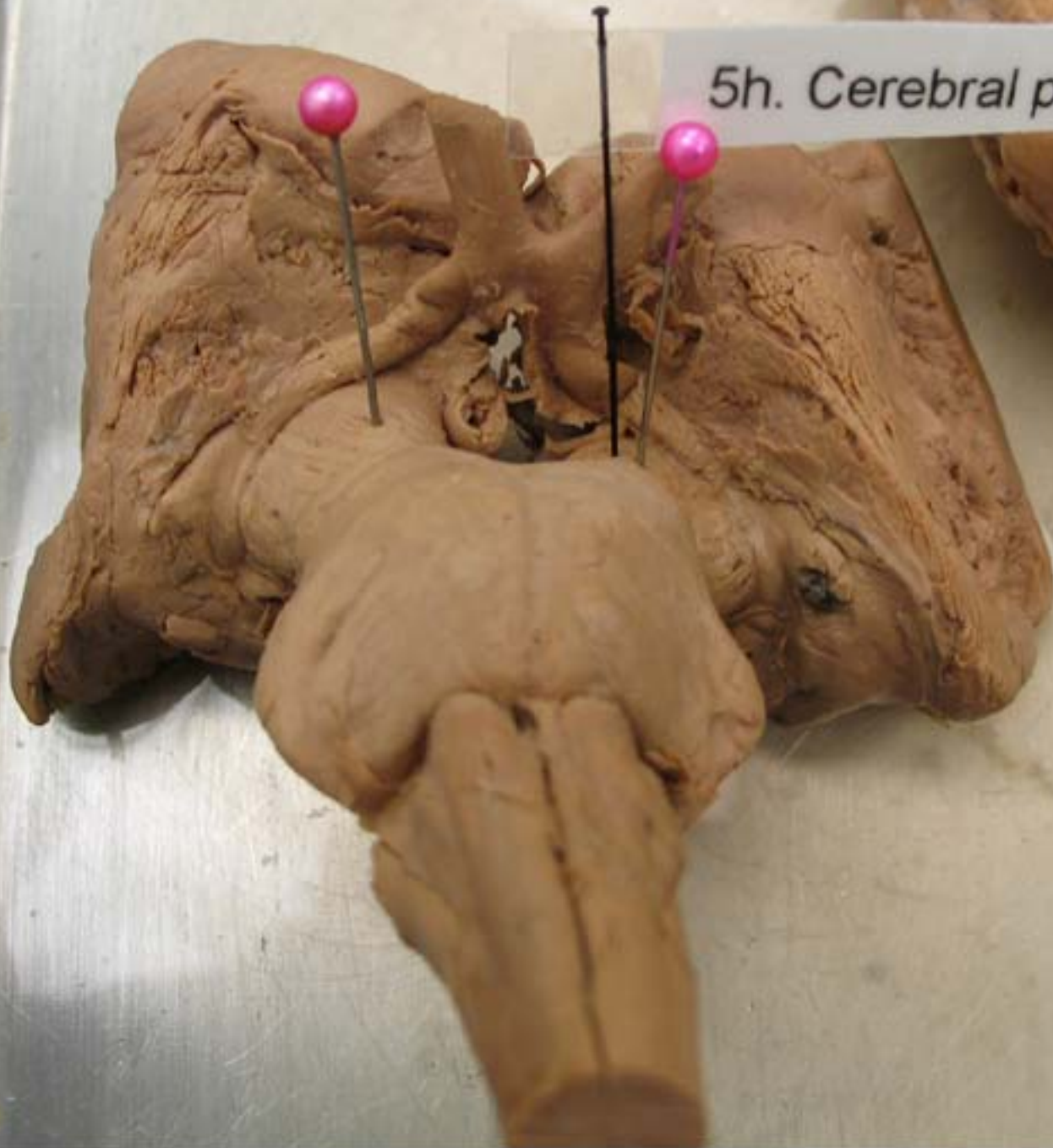
actory bulb

Corpus

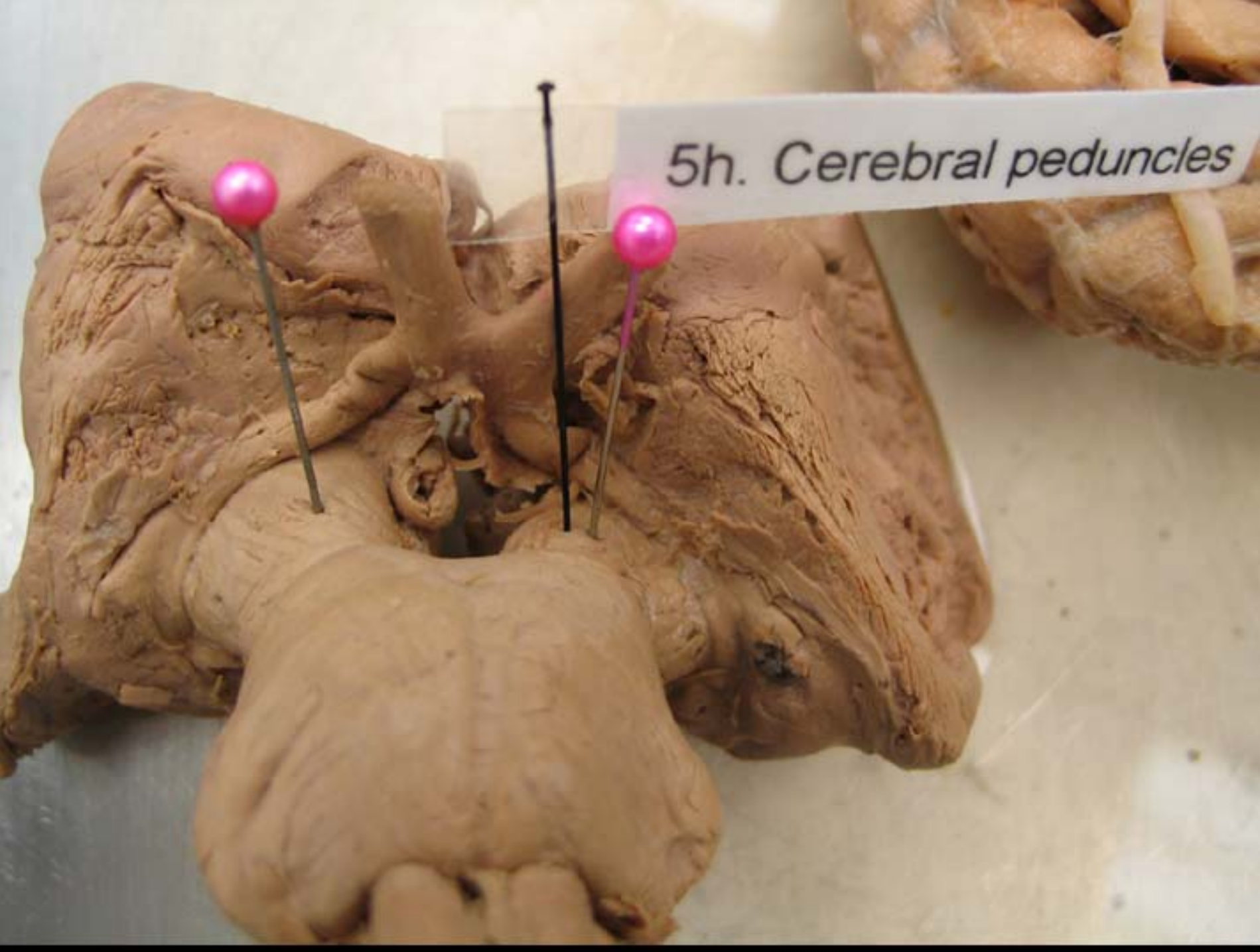
5g. Anterior Commissure
um.



5h. Cerebral peduncles



5h. *Cerebral peduncles*



5h. Cerebral peduncles

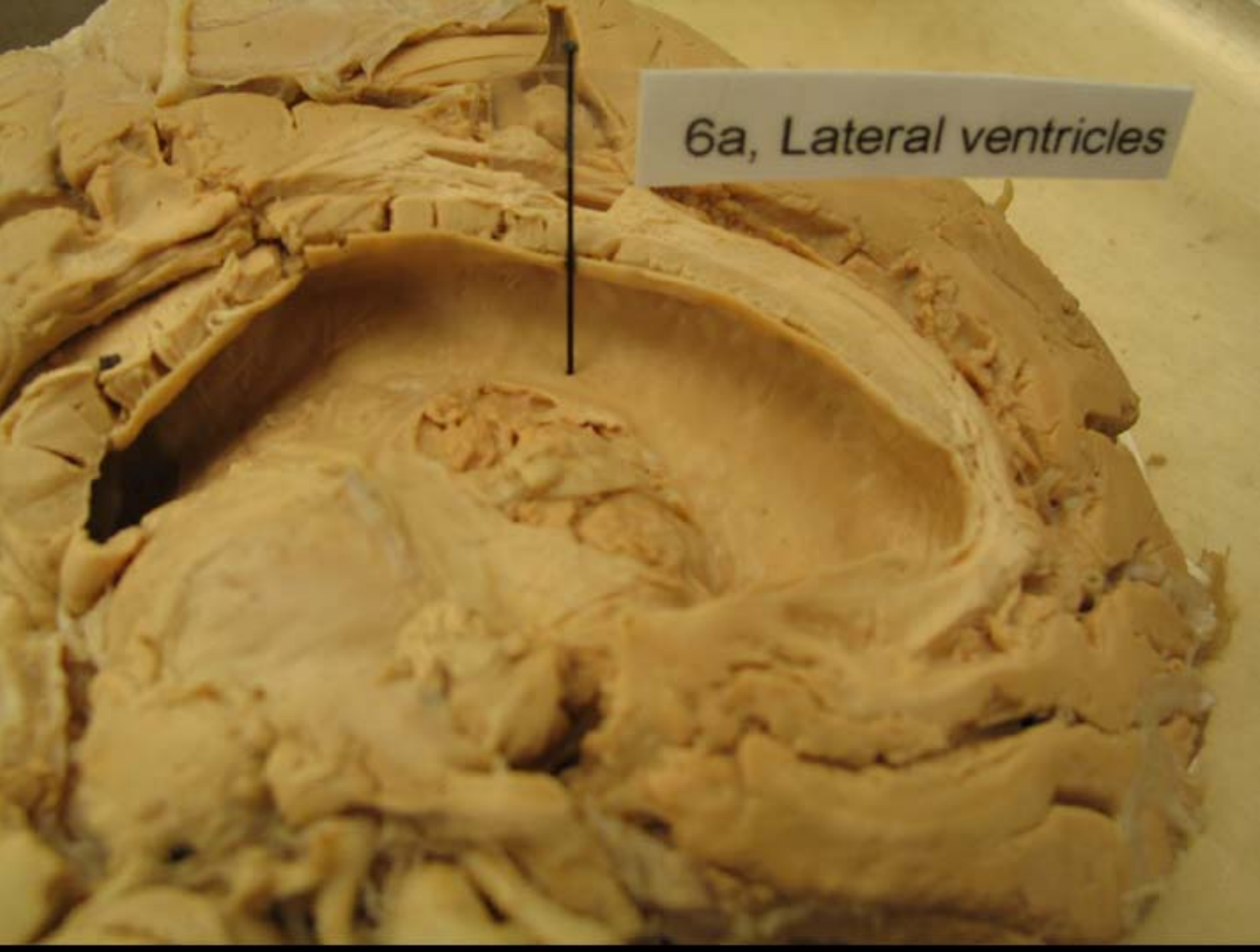




A detailed anatomical dissection of a lateral ventricle, showing the internal structures and surrounding brain tissue. The dissection is performed on a light-colored surface, and a black pin is used to hold open the tissue. A white label with black text is placed next to the dissection.

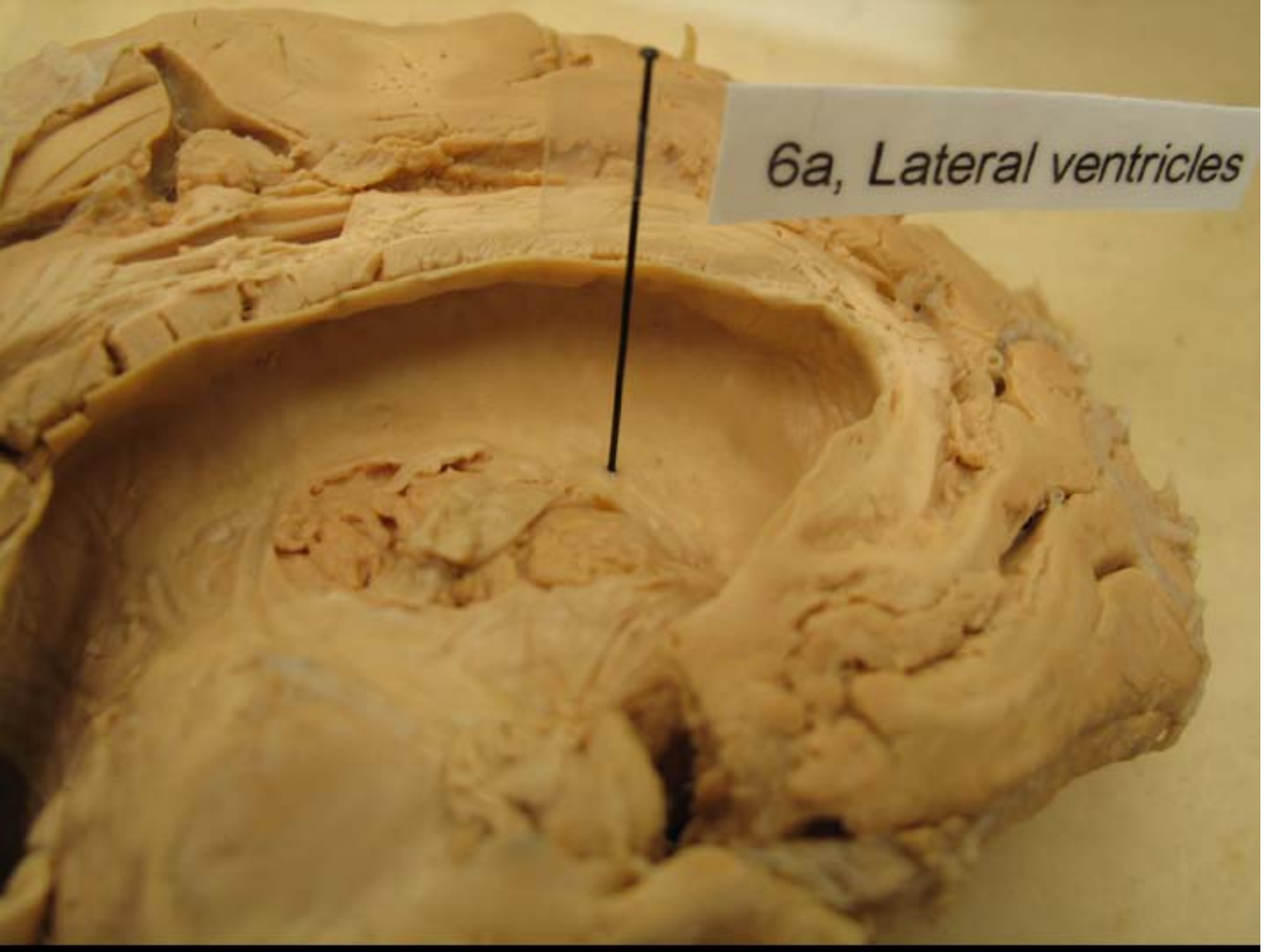
6a, Lateral ventricle

6a, Lateral ventricles

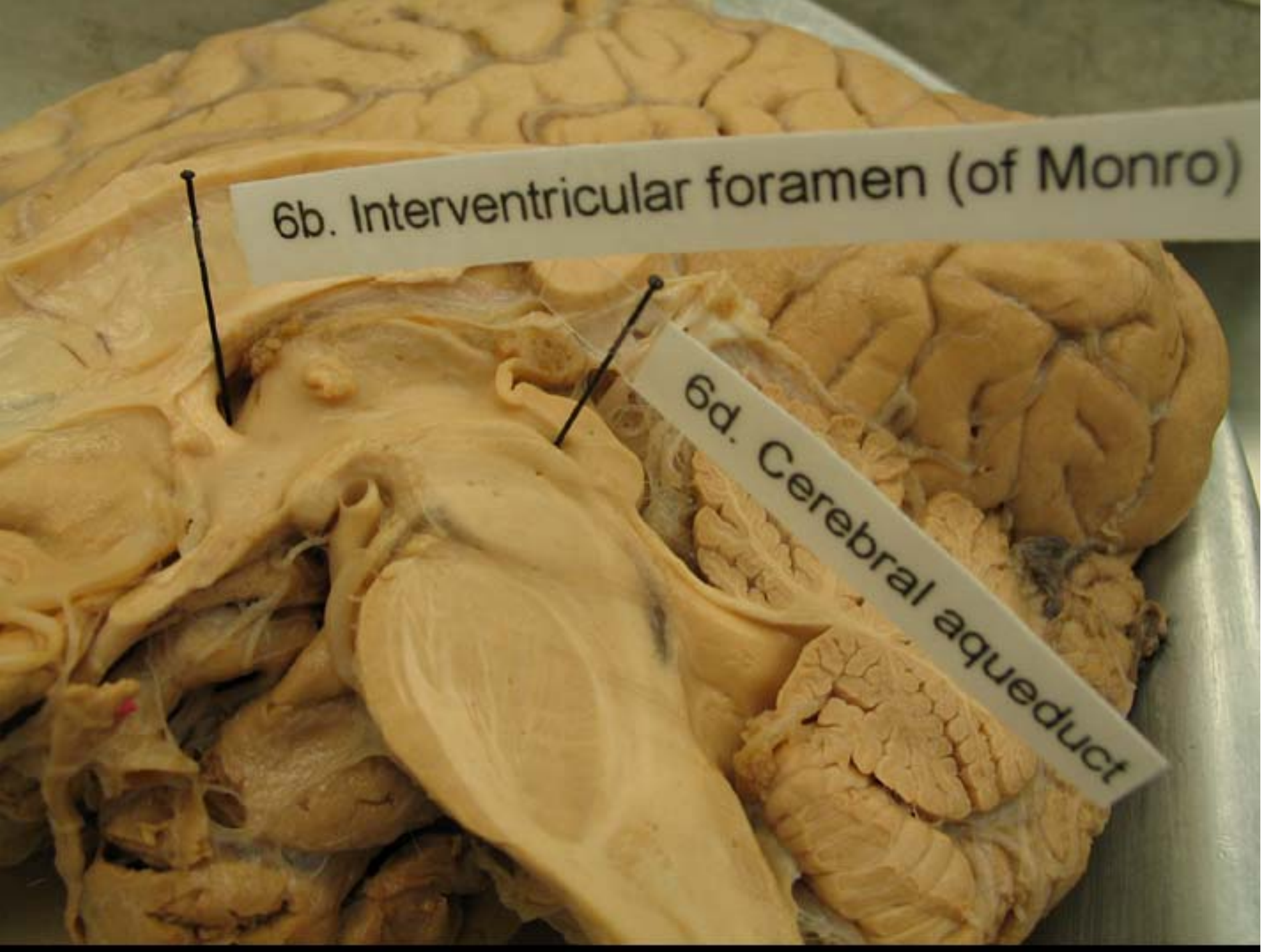


6a, Lateral ventricles



An anatomical dissection of a brain specimen, likely a rat or mouse, showing the lateral ventricle. The brain is sectioned to reveal internal structures. A black line points from a label to the large, clear, fluid-filled space of the lateral ventricle. The surrounding brain tissue is a light tan color, and the ventricle itself is a pale, translucent yellow. The dissection is performed on a light-colored surface.

6a, *Lateral ventricles*

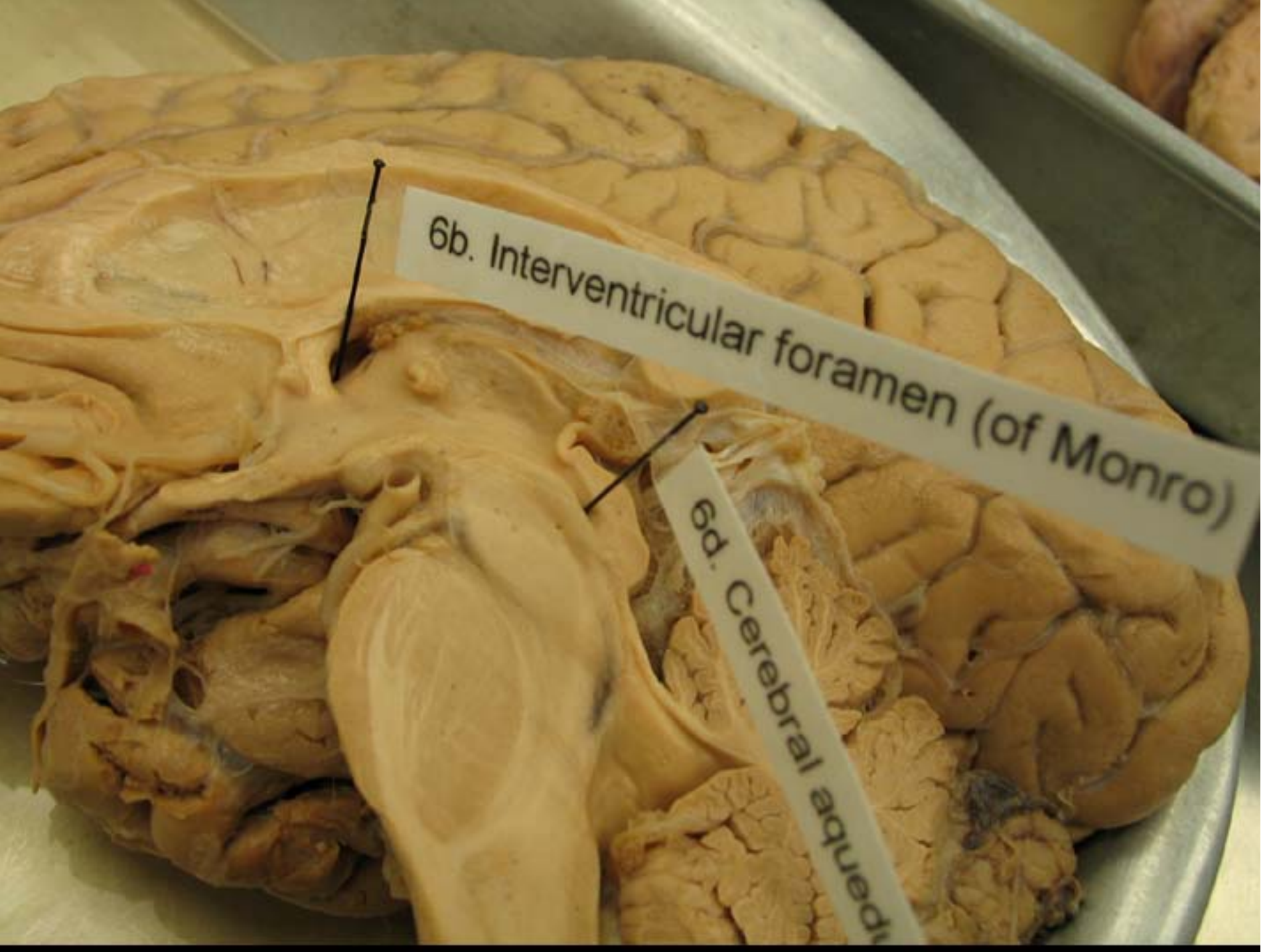


6b. Interventricular foramen (of Monro)

This image shows a coronal section of a human brain. The cerebral hemispheres are at the top, showing gyri and sulci. Below them, the midbrain is visible. Two black pins are used to hold open the dissection. The first pin points to a small opening in the midline of the midbrain, which is the intervententricular foramen. The second pin points to a larger opening further down in the midbrain, which is the cerebral aqueduct. The brain tissue is a light tan color, and the surrounding structures are also visible.

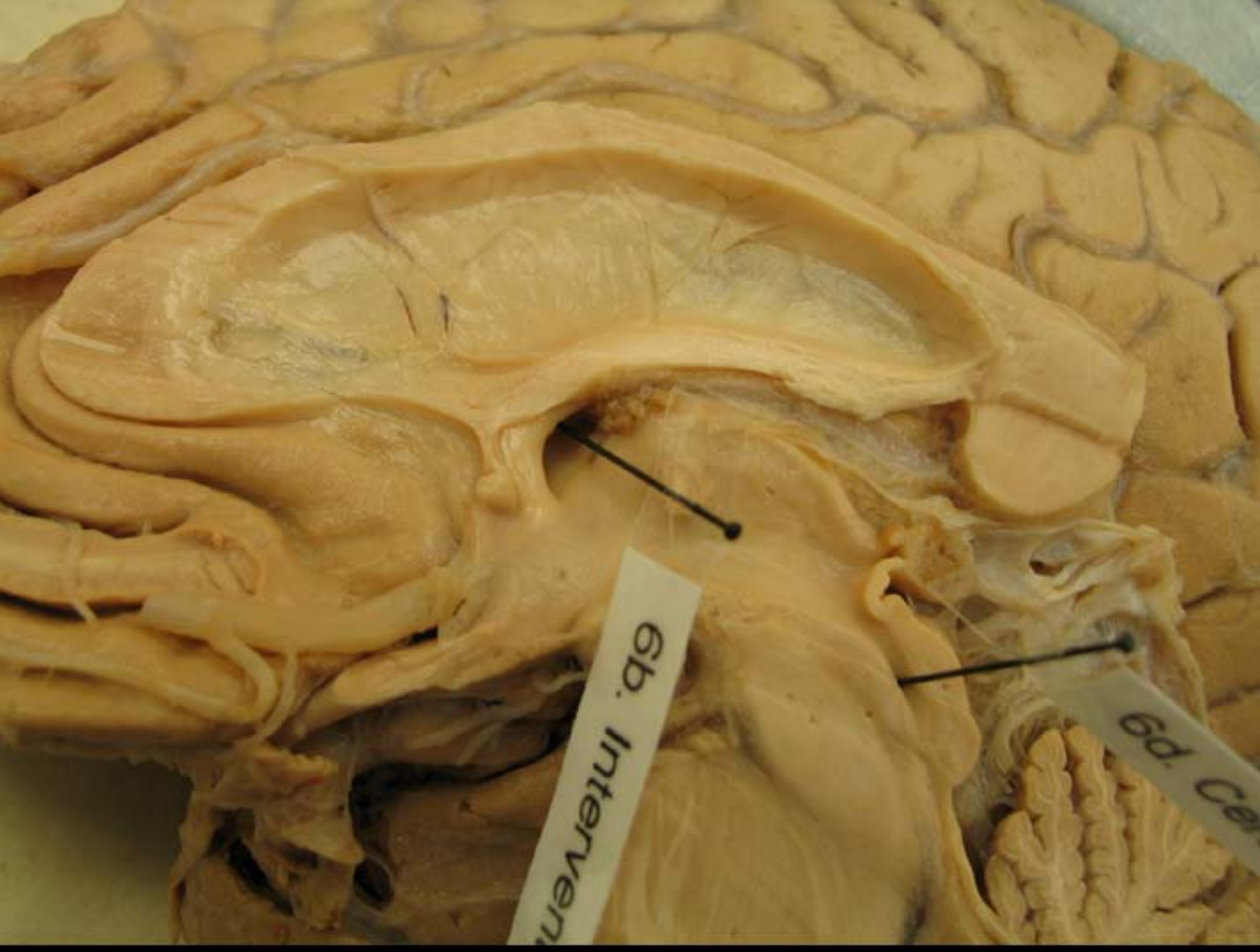
6d. Cerebral aqueduct

This image shows a coronal section of a human brain, focusing on the midbrain. A black pin is used to hold open the dissection. The pin points to a small opening in the midline of the midbrain, which is the cerebral aqueduct. The brain tissue is a light tan color, and the surrounding structures are also visible.



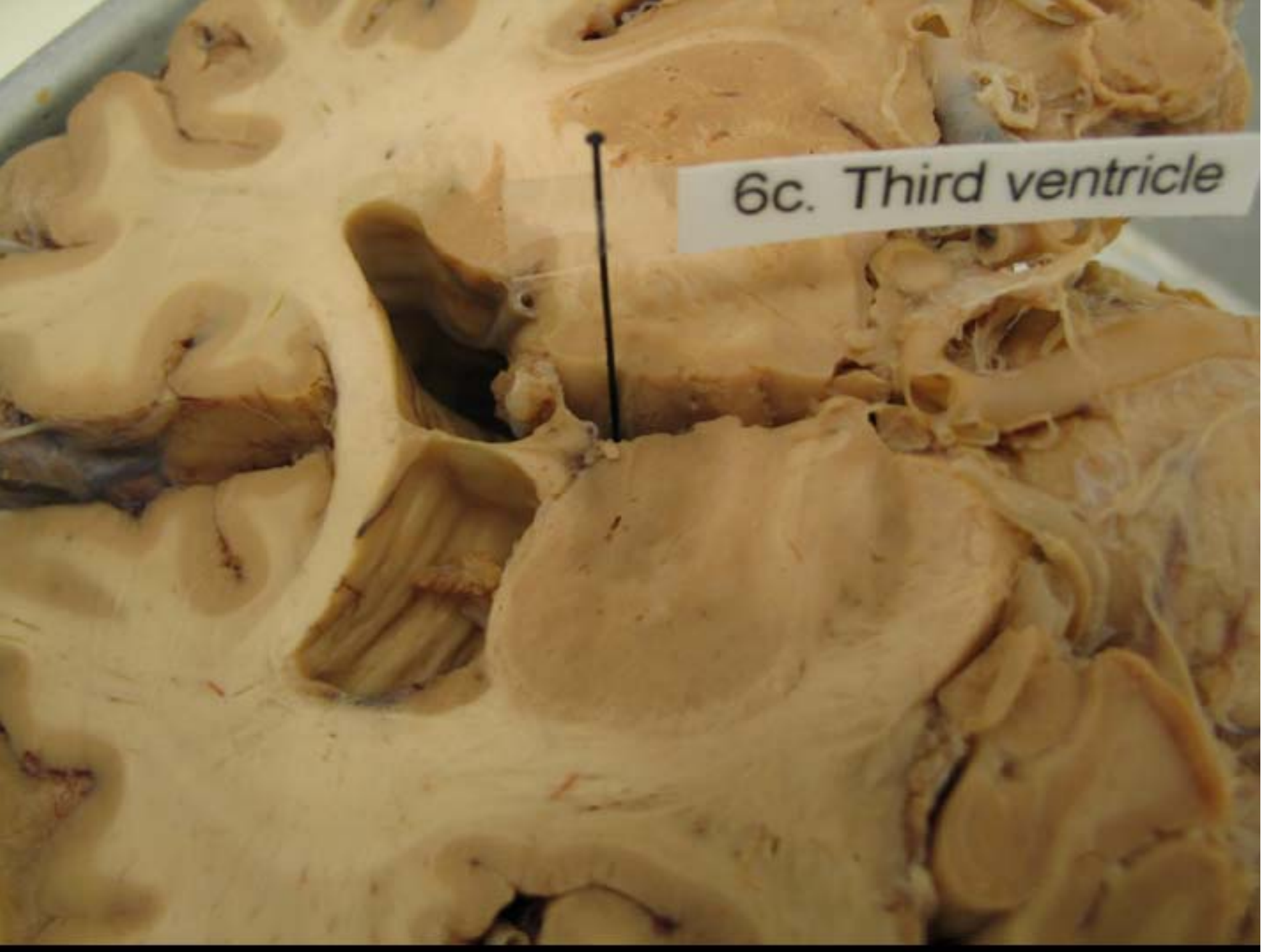
6b. Interventricular foramen (of Monro)

6d. Cerebral aqueduct





6c. Third ventricle

A photograph of a coronal section of a human brain specimen. The brain tissue is a pale, yellowish-tan color. The third ventricle is a dark, recessed space located in the midline of the brain, between the two lateral ventricles. A black pointer indicates this space. The surrounding brain tissue shows various gyri and sulci. A white label with black text is positioned to the right of the brain, with a black line pointing to the third ventricle.

6c. Third ventricle

o. Interventricular

6d. Cerebral aqueduct





6d. Cerebral aqueduct

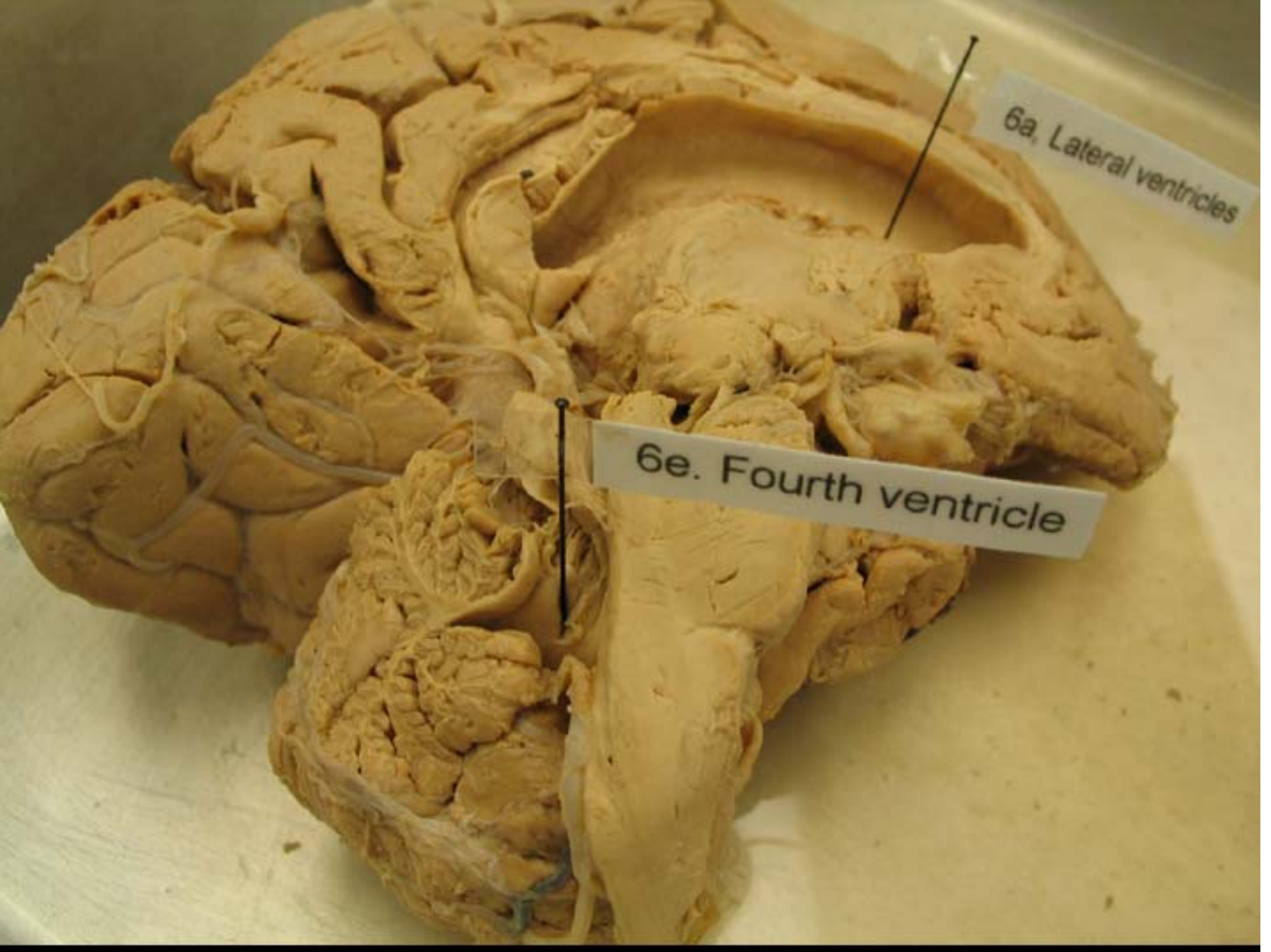
This image shows a detailed anatomical dissection of the posterior part of the brain. The cerebral aqueduct is a small opening in the midbrain, which is the part of the brainstem located between the midbrain and the pons. The dissection reveals the surrounding brain tissue, including the cerebellum and the brainstem. A black pin is used to hold the dissection open, and a white label with black text identifies the structure as the cerebral aqueduct.



6d. Cerebra

6e. Fourth ventricle



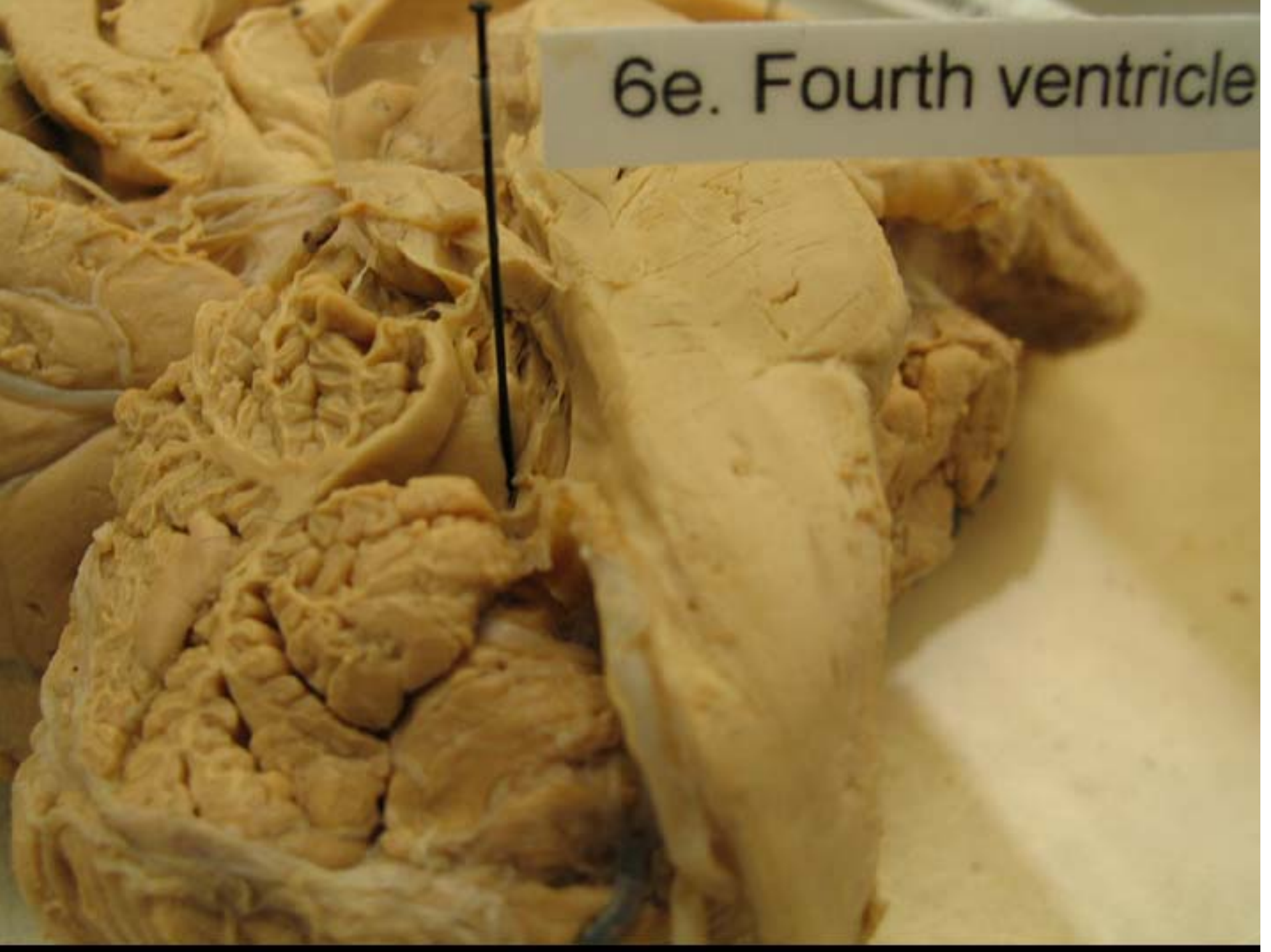


6a. Lateral ventricles

This image shows a detailed anatomical dissection of a human brain specimen. The brain is positioned on a light-colored surface. The lateral ventricle is visible as a large, C-shaped cavity within the cerebral hemisphere. The fourth ventricle is located in the posterior part of the brain, between the pons and the cerebellum. The dissection reveals the intricate folds of the cerebral cortex and the underlying white matter. Two labels with black lines pointing to specific structures are present: '6a. Lateral ventricles' points to the large cavity in the upper right, and '6e. Fourth ventricle' points to a smaller structure in the lower center.

6e. Fourth ventricle

6e. Fourth ventricle



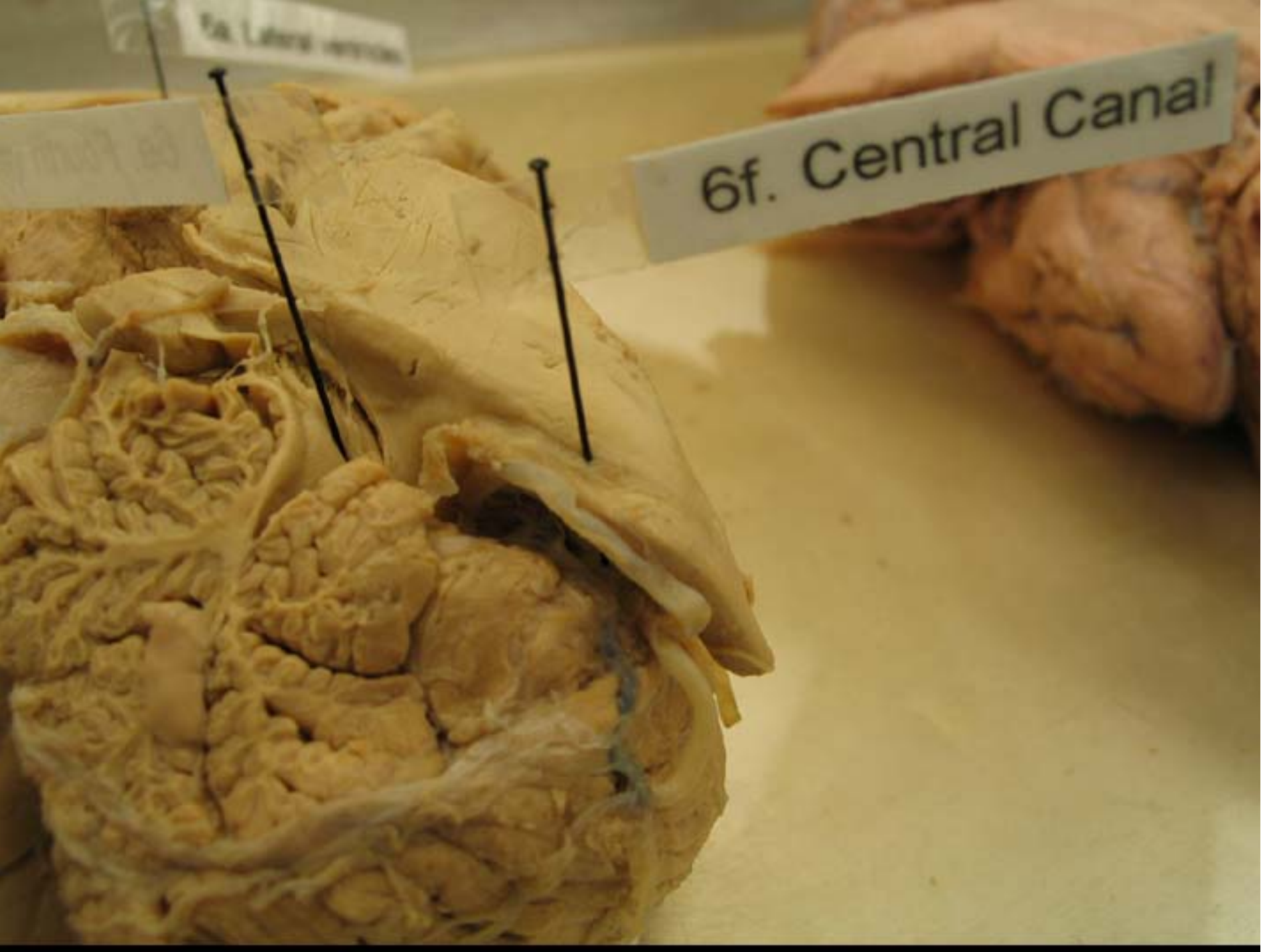
6a, Lateral

6e. Fourth ventricle

6f. Central Canal



6f. Central Canal



6f. Central Canal

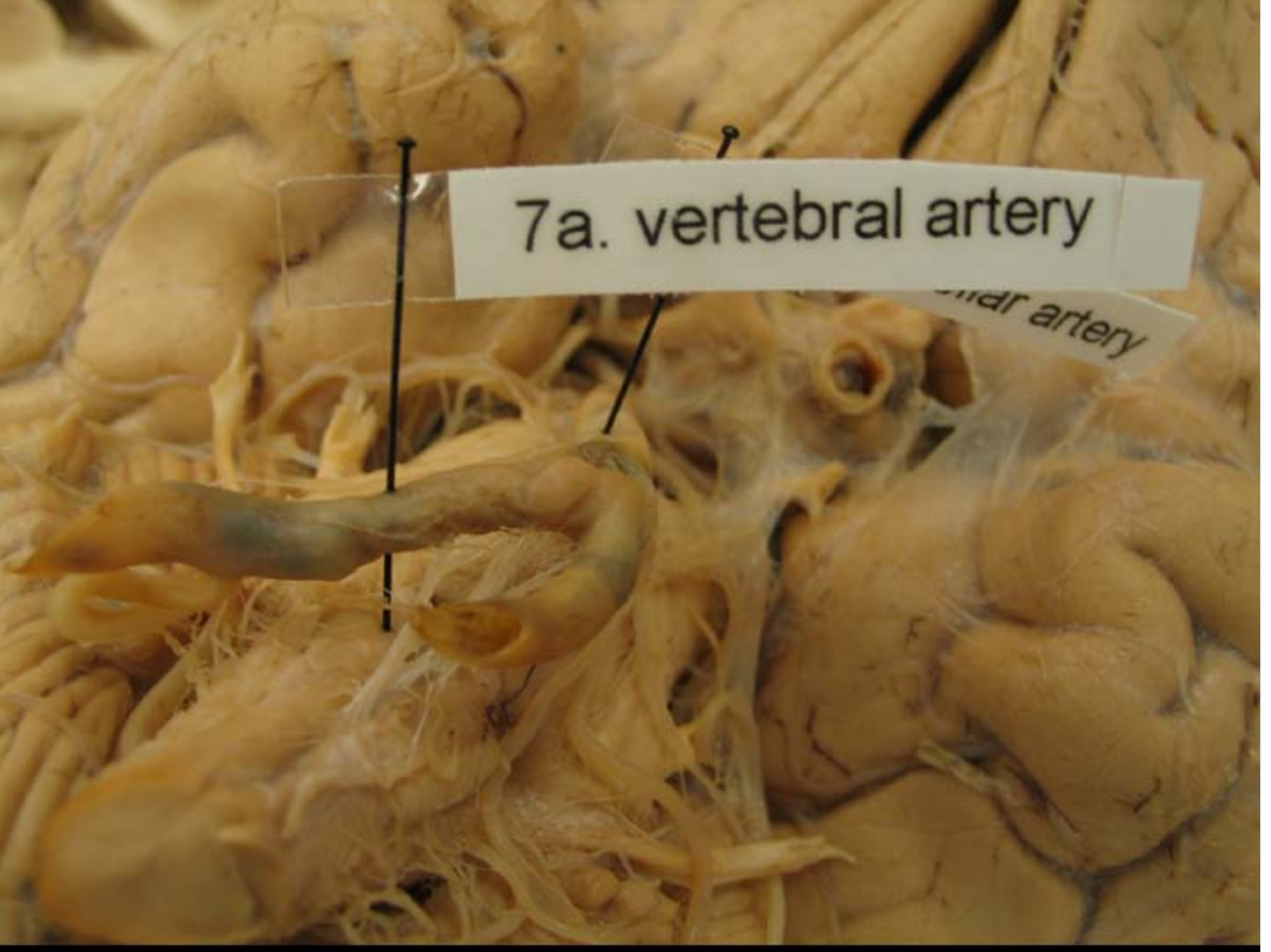




7c. basilar artery

This image shows a detailed anatomical dissection of the posterior base of a human skull. The bony structures, including the occipital and parietal bones, are visible in a light tan color. A network of arteries is exposed, with the vertebral artery (7a) and basilar artery (7c) being the primary focus. The vertebral artery is shown entering the skull base and ascending. The basilar artery is formed by the union of the vertebral arteries and is seen branching into the posterior cerebral arteries. The dissection is held open by several black pins. Two white labels with black text are placed near the arteries for identification.

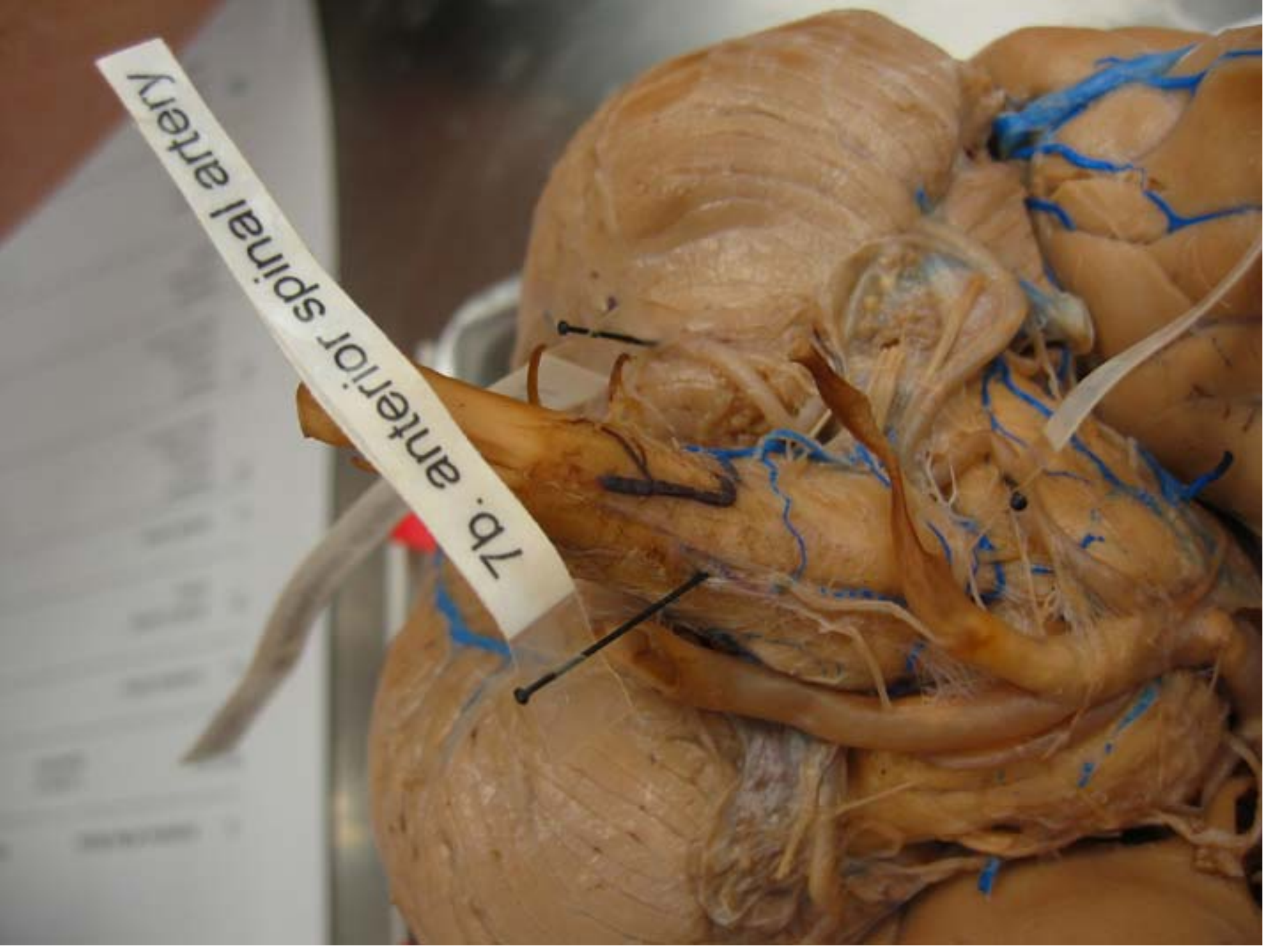
7a. vertebral artery

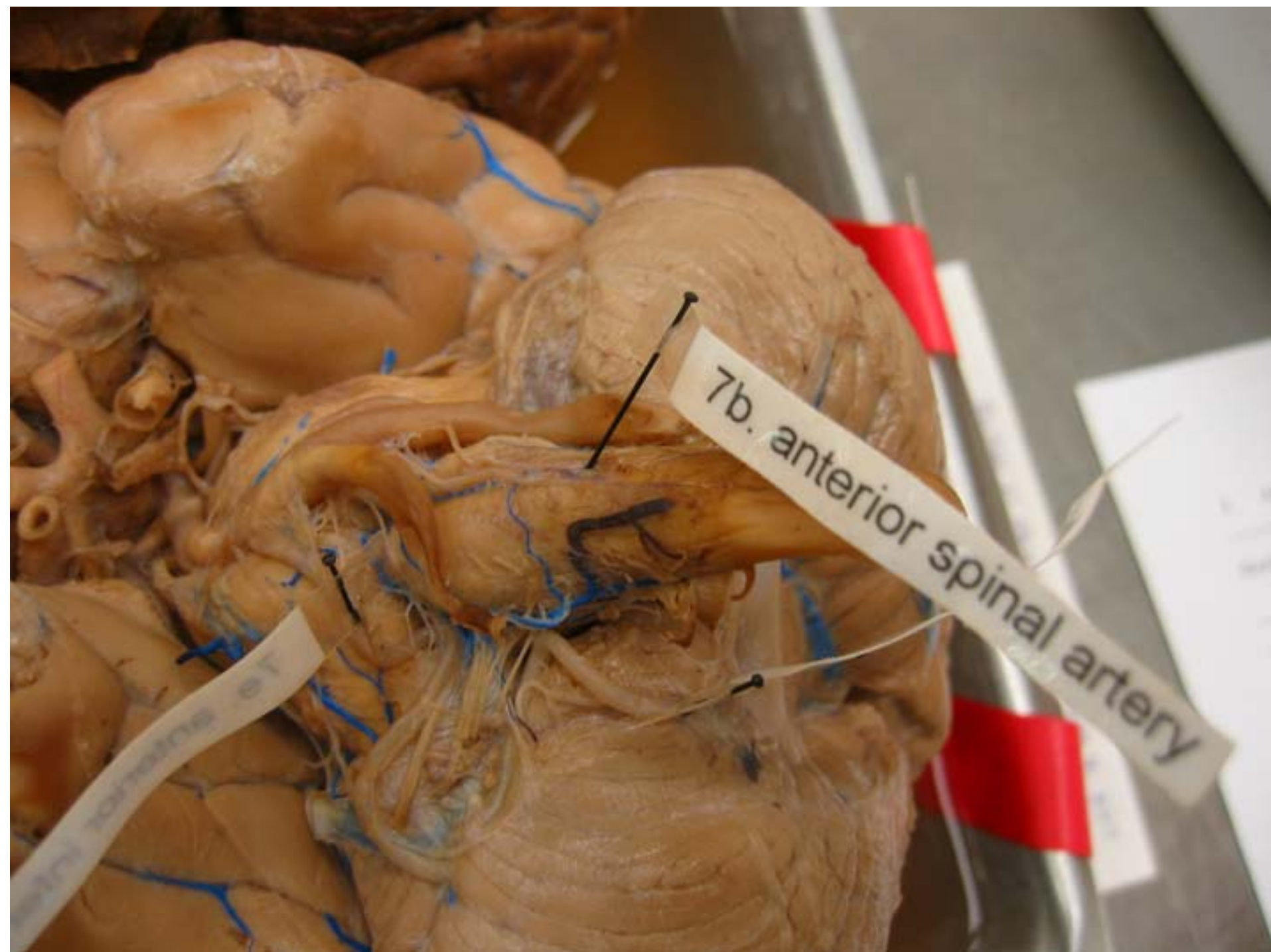


7a. vertebral artery

This image shows a detailed anatomical dissection of the vertebral artery. The artery is a thick, pale, and somewhat tortuous structure that is being held in place by a black suture. It is surrounded by a complex network of fine, yellowish connective tissue fibers and other blood vessels. A white label with black text, '7a. vertebral artery', is positioned above the artery, with a black line pointing to it. The background consists of various anatomical structures, including what appears to be the bony vertebrae and other soft tissue components of the spine.

7b. anterior spinal artery



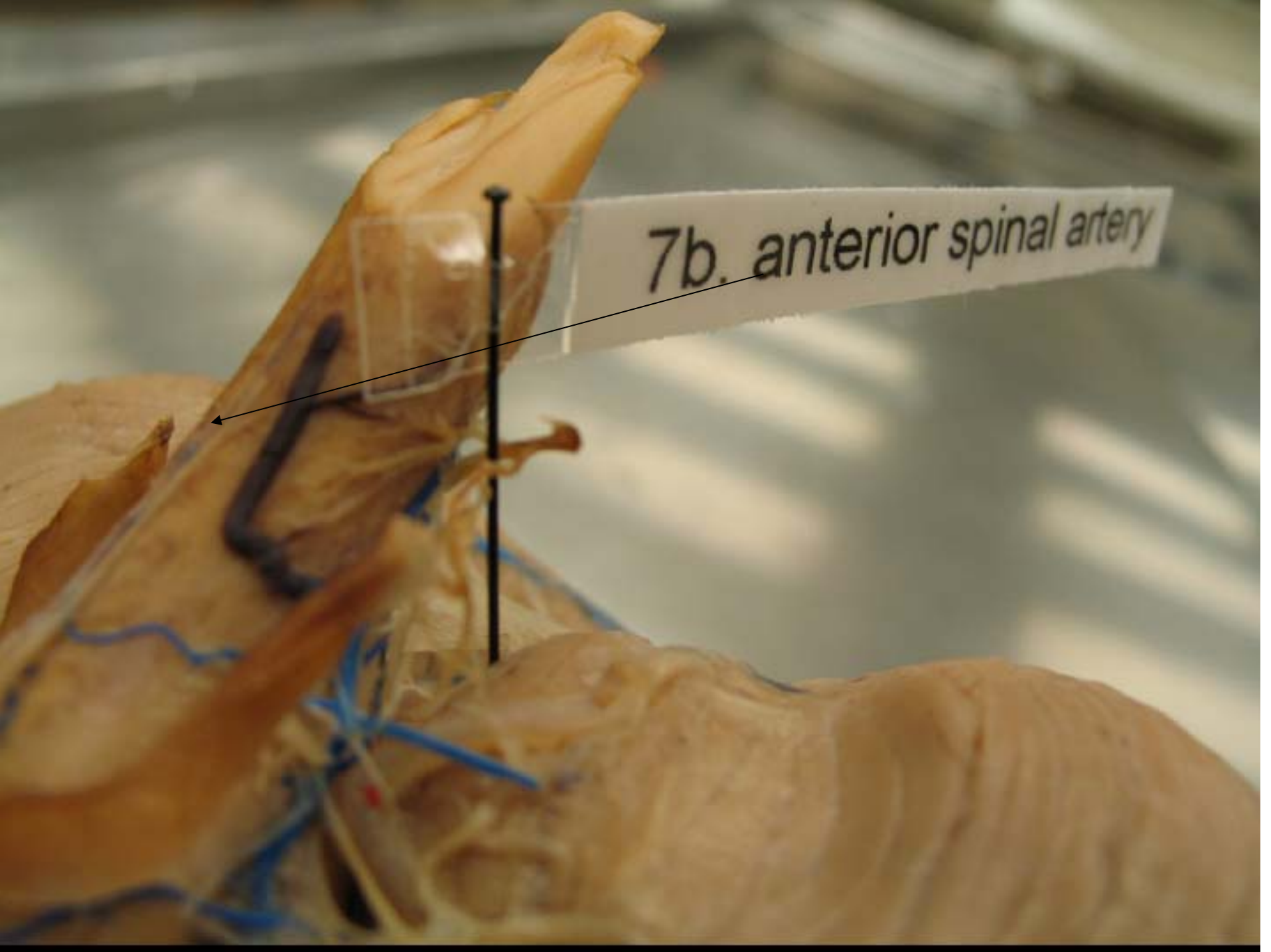


7b. anterior spinal artery

This image shows a detailed anatomical dissection of the anterior spinal artery. The artery is a small, dark, thread-like structure that runs along the anterior surface of the spinal cord. It is surrounded by a network of blood vessels, including larger arteries and veins, and is held in place by fine, fibrous connective tissue. The dissection is performed on a specimen that appears to be a section of the spinal cord or a related structure, with various tissues and vessels exposed. A black pin is used to hold the dissection open, and a red ribbon is visible in the background. The label '7b. anterior spinal artery' is placed next to the artery, and another label '7a. anterior spinal artery' is visible in the bottom left corner.



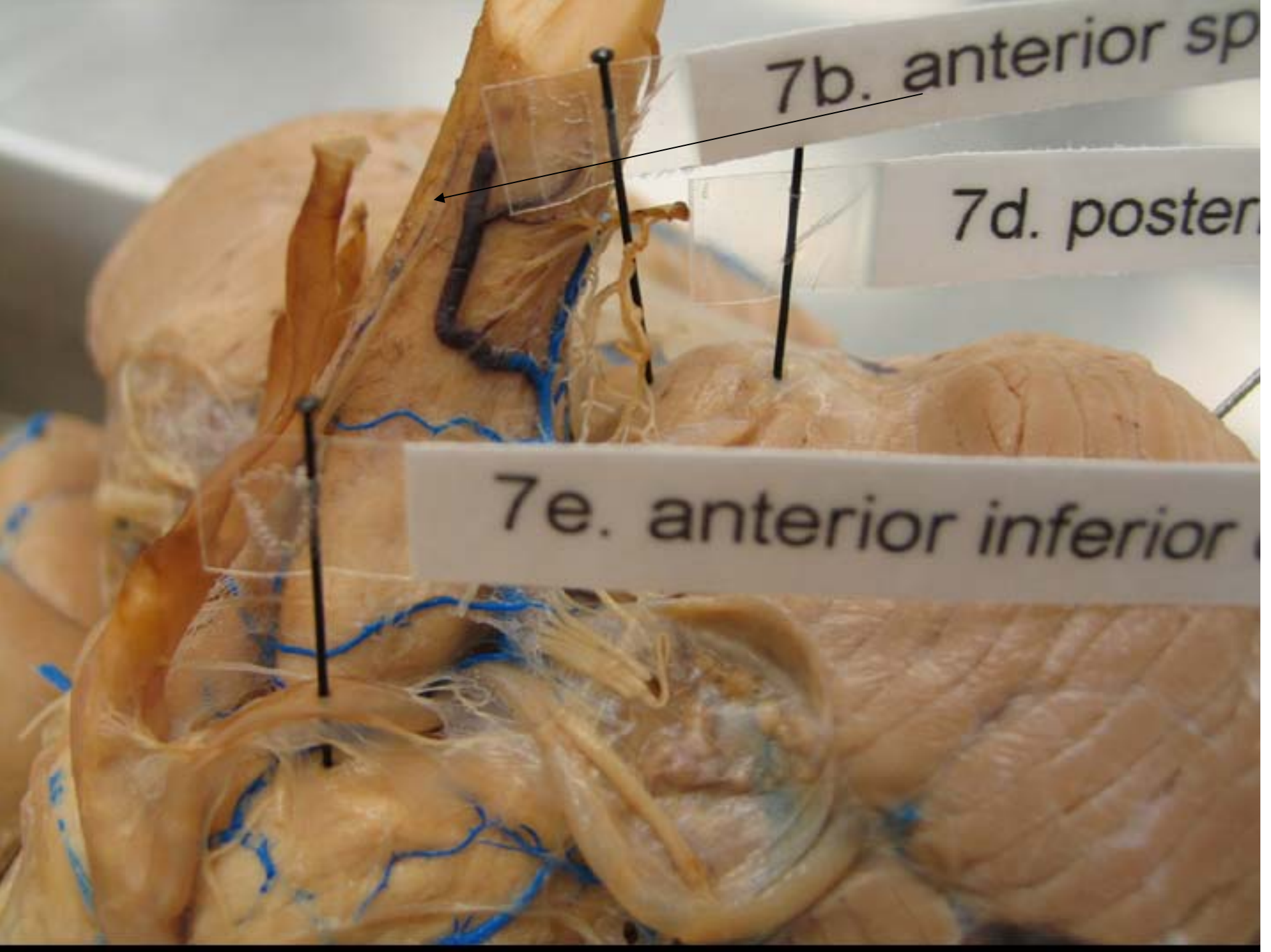
7b. anterior spinal artery



7b. anterior sp

7d. poster

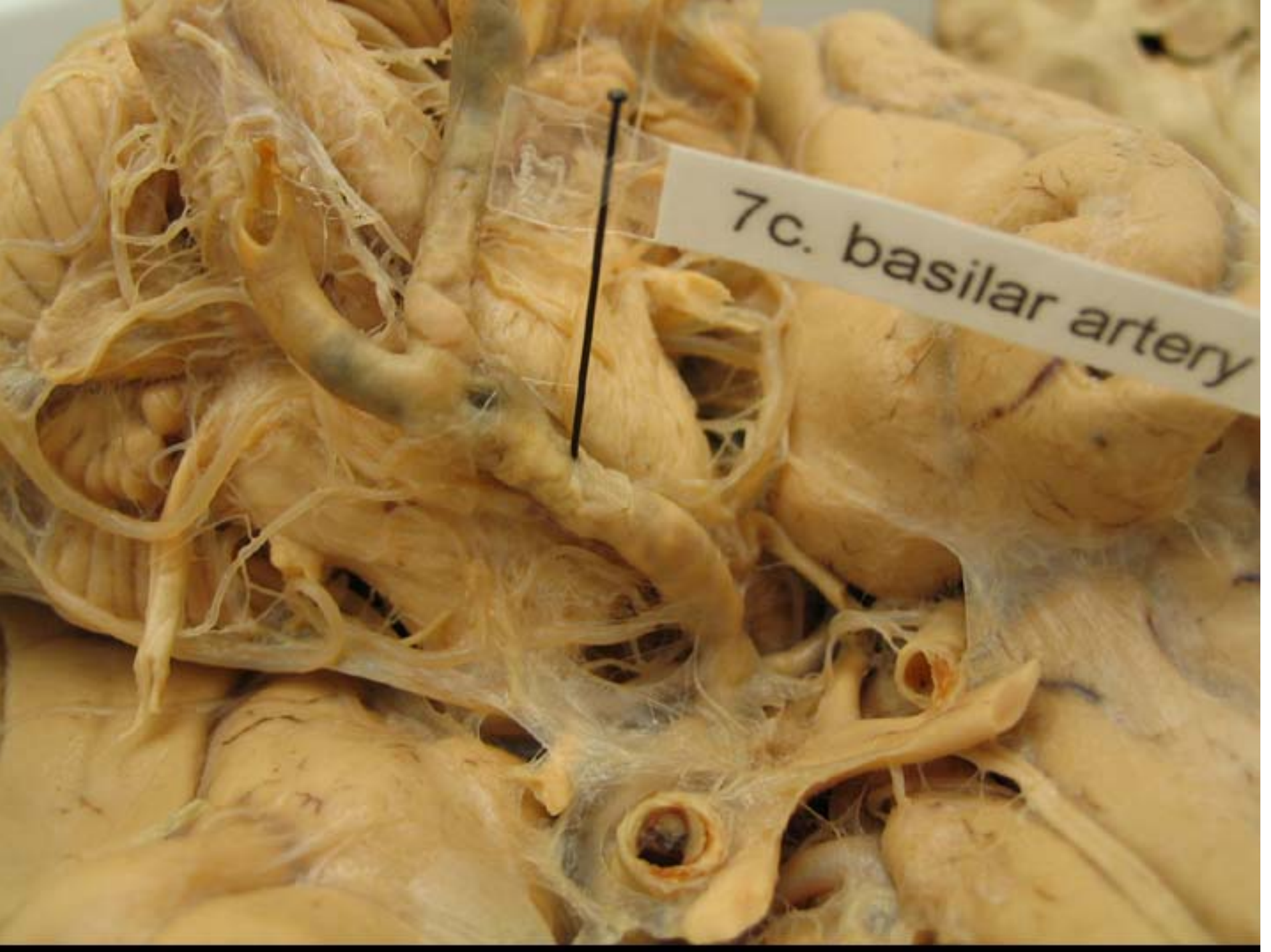
7e. anterior inferior





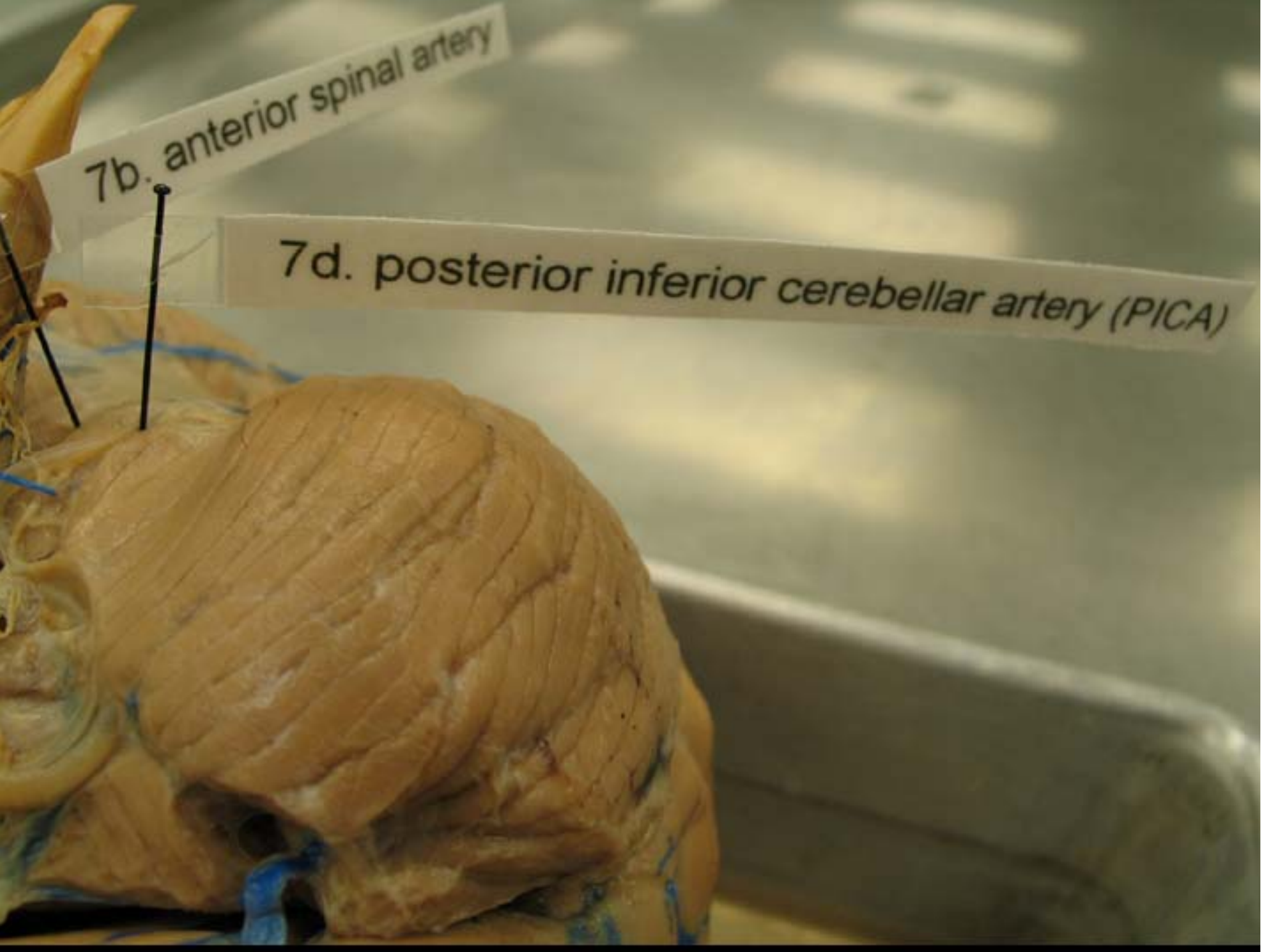
This anatomical photograph shows a deep dissection of the human base of the skull. The bony structures, including the sphenoid and occipital bones, are visible in a light tan color. A dense network of yellowish, fibrous connective tissue and ligaments is exposed. A prominent, thick, pale yellowish structure, likely the basilar artery, is visible in the lower left. A black pointer indicates a specific location on the basilar artery, which is labeled with a white tag.

7c. basilar artery



This image shows a detailed anatomical dissection of the human skull base. The basilar artery is the central focus, appearing as a thick, pale, and somewhat tortuous vessel. It is surrounded by a complex network of fine, fibrous connective tissue and other smaller blood vessels. A black pin is used to hold open the dissection, and a white label with black text points to the artery. The surrounding bony structures of the skull base are visible, showing various foramina and the intricate architecture of the cranial base.

7c. basilar artery

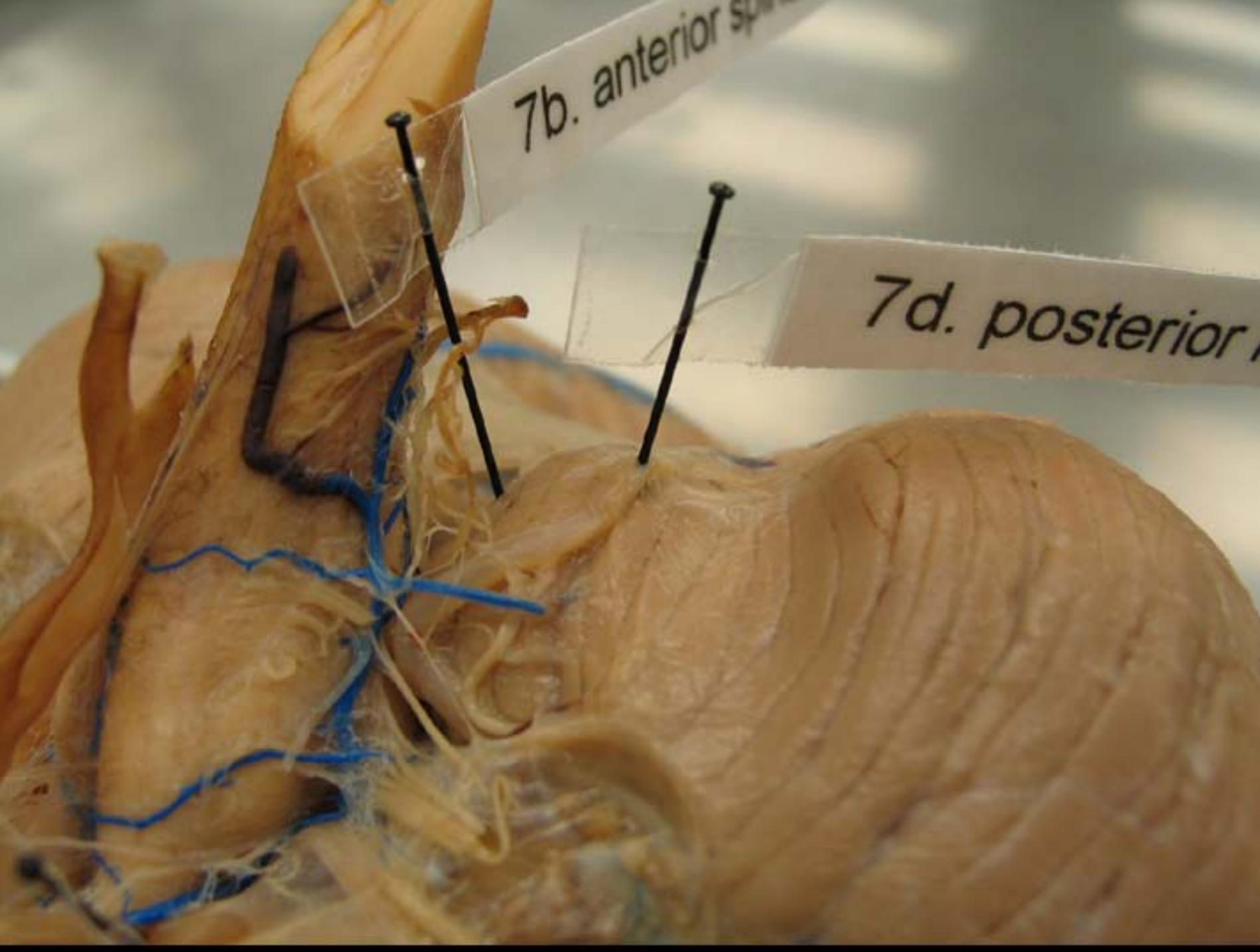


7b. anterior spinal artery

7d. posterior inferior cerebellar artery (PICA)

7b. anterior spinal

7d. posterior

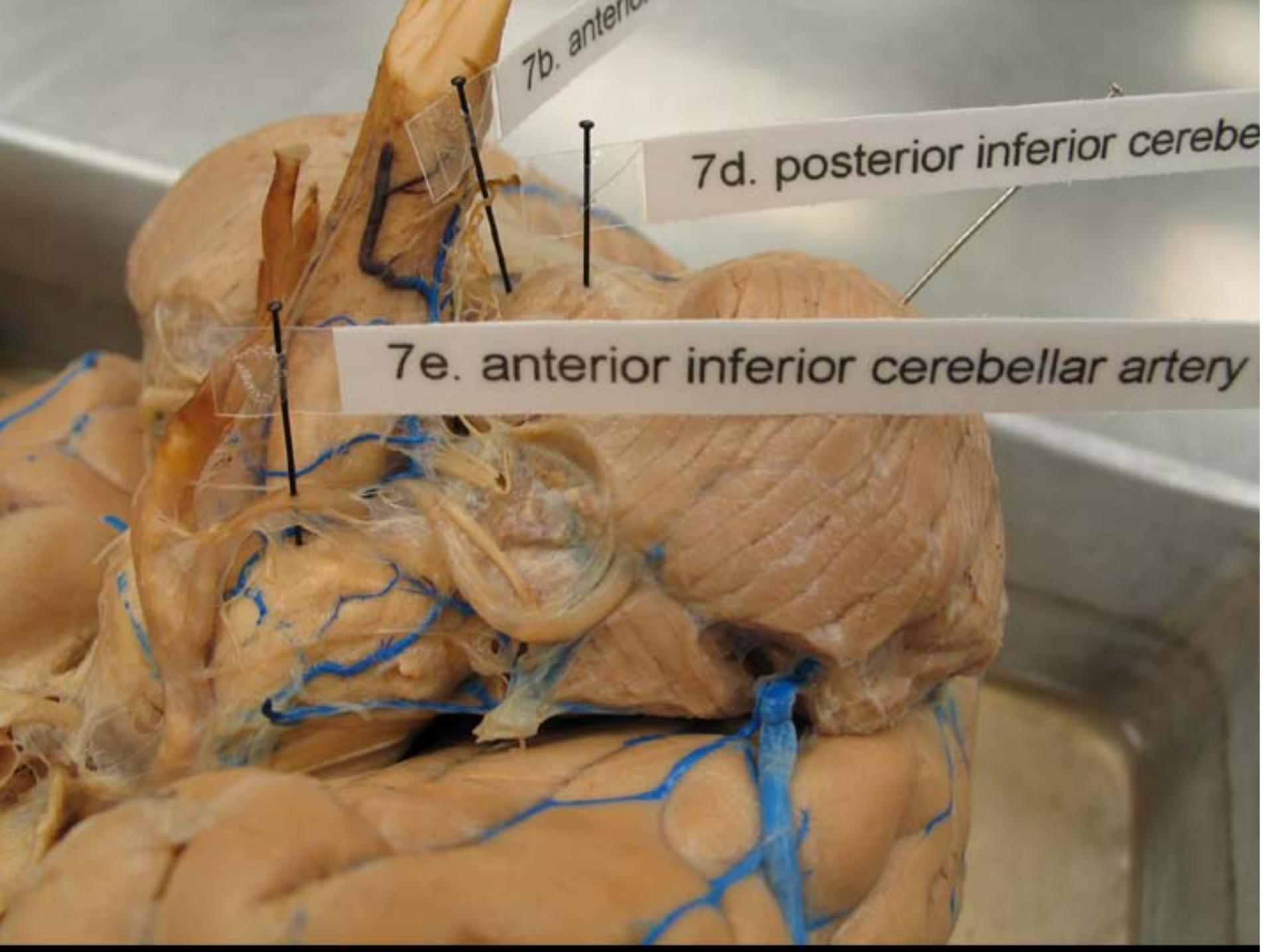




7b. anterior

7d. posterior inferior cerebe

7e. anterior inferior cerebellar artery



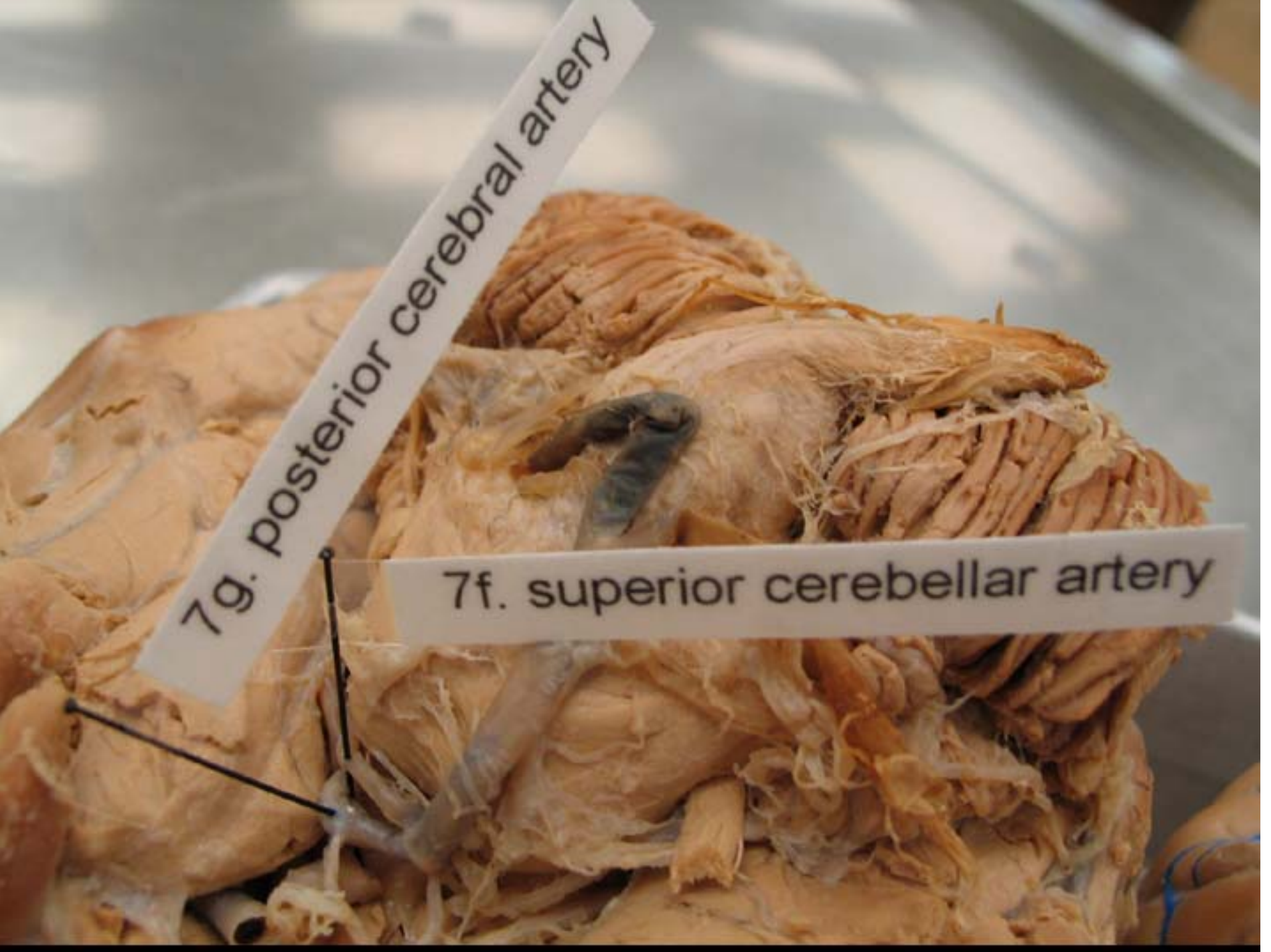
7d. pos

7e. anterior infer



7g. posterior cerebral artery

7f. superior cerebellar artery



7g. post

7f. superior c



7g. post

7f. superior cereb





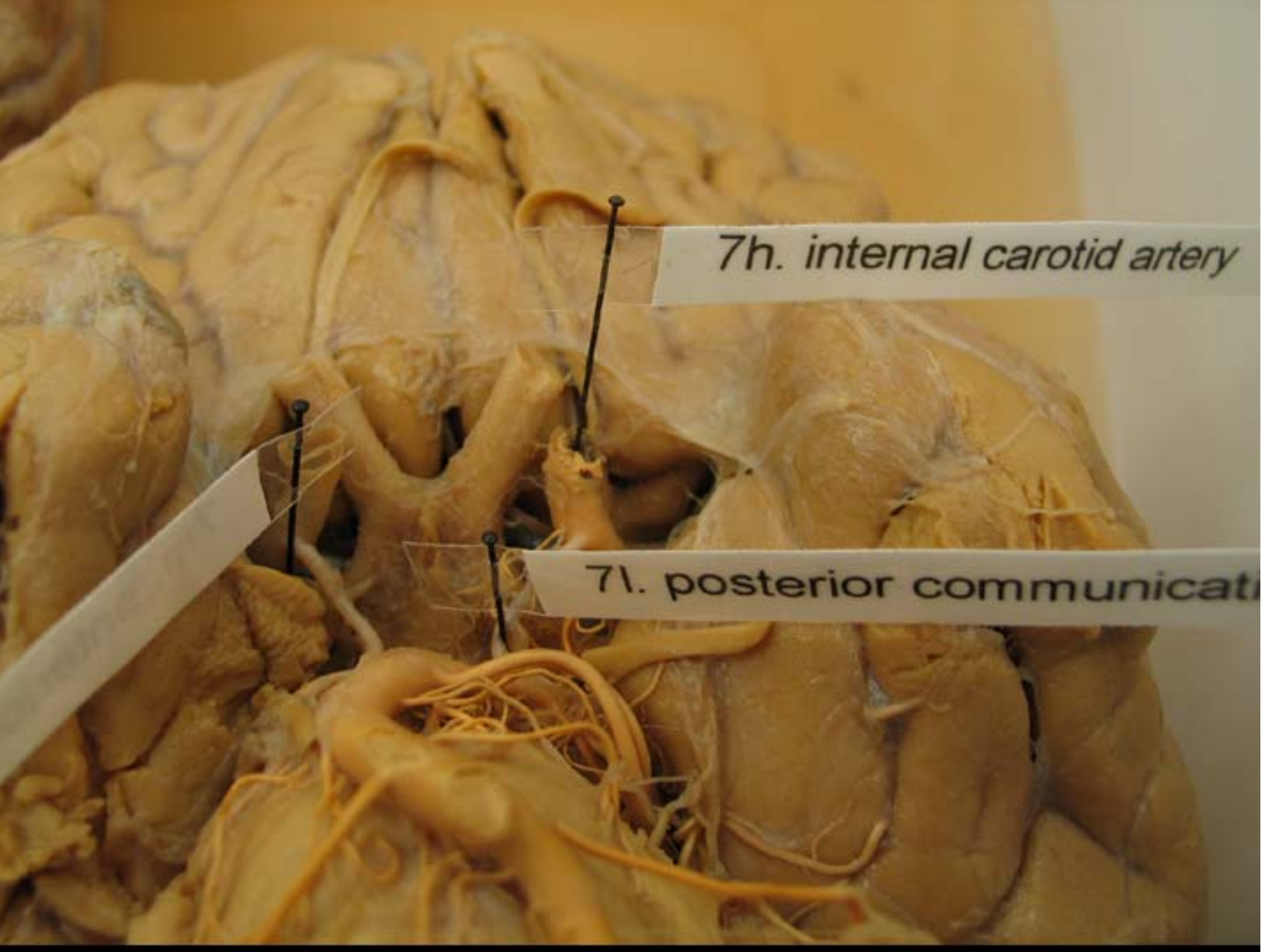
7f. superior cerebellar artery

This image shows a detailed anatomical dissection of the superior cerebellar artery. The artery is a pale, translucent, tubular structure that is being traced through a complex network of yellowish, fibrous connective tissue and other vascular structures. A white label with black text, '7f. superior cerebellar artery', is positioned above the artery, with a thin black line pointing down to its course. The surrounding tissue is dense and layered, with various shades of tan and yellow. The overall scene is a close-up of a surgical or anatomical specimen.



7g. posterior cerebral arte

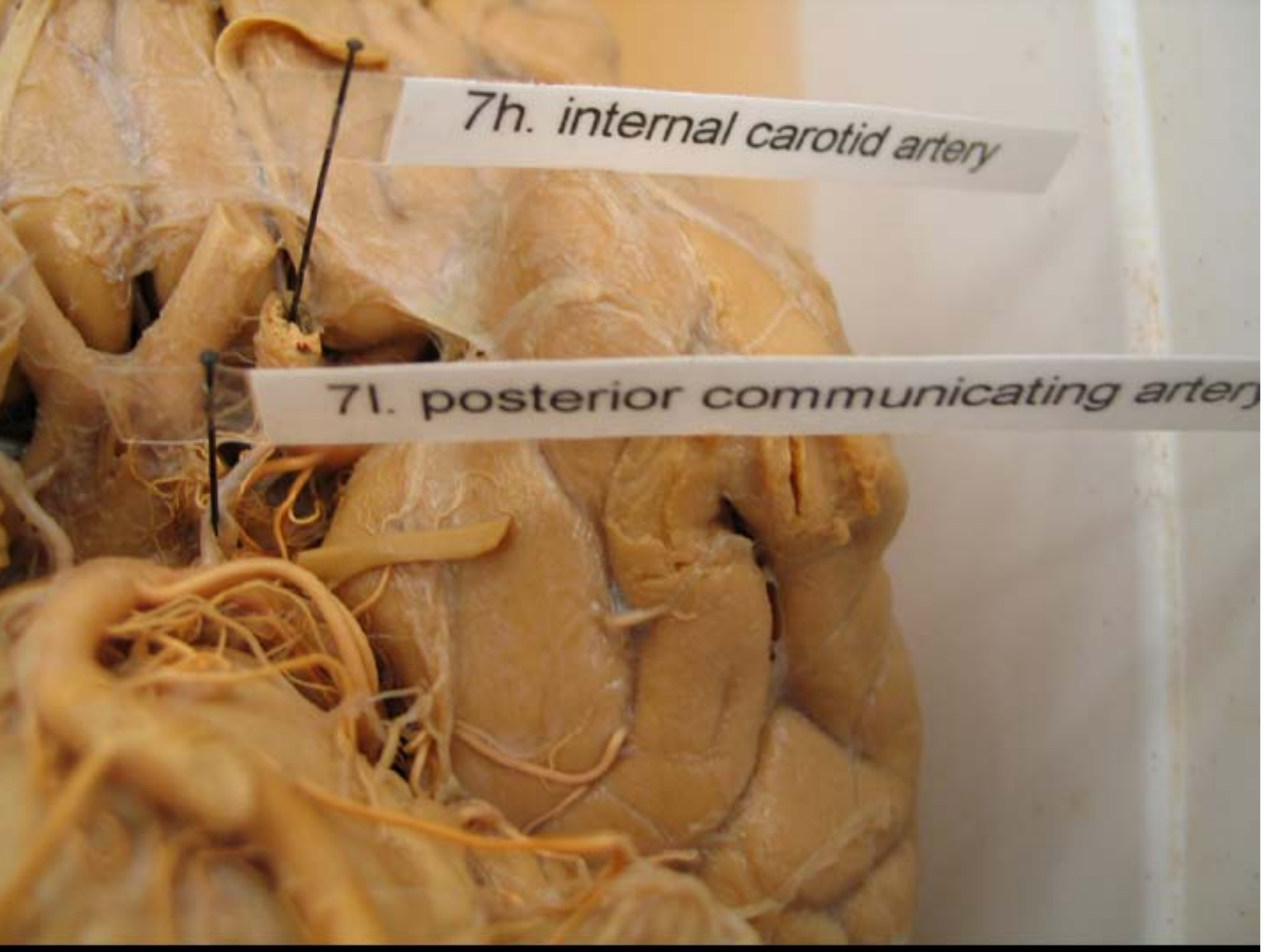
This image shows a detailed anatomical dissection of the posterior cerebral artery (PCA) in a specimen, likely a pig. The artery is highlighted by a black pointer and a white label. The surrounding tissue is yellowish and fibrous, showing the complex branching pattern of the arterial system. The label is partially cut off on the right side.



7h. internal carotid artery

This image shows a detailed anatomical dissection of the internal carotid artery and its branches. The artery is a thick, yellowish structure that has been carefully cut and pinned open with black sutures. It is surrounded by various other vessels and nerves, which are also visible in the dissection. The background is a plain, light-colored surface.

7l. posterior communicati



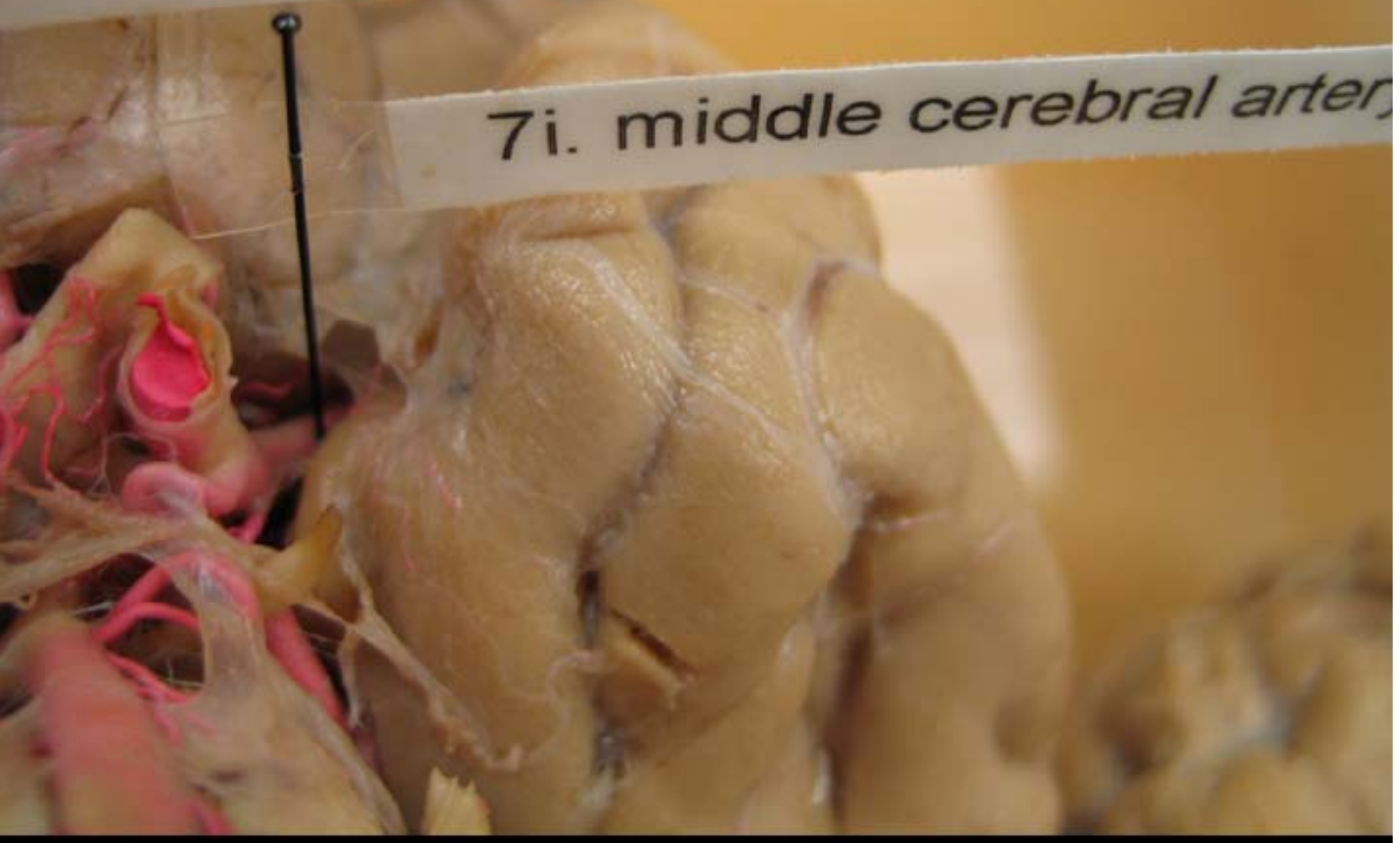
7h. internal carotid artery

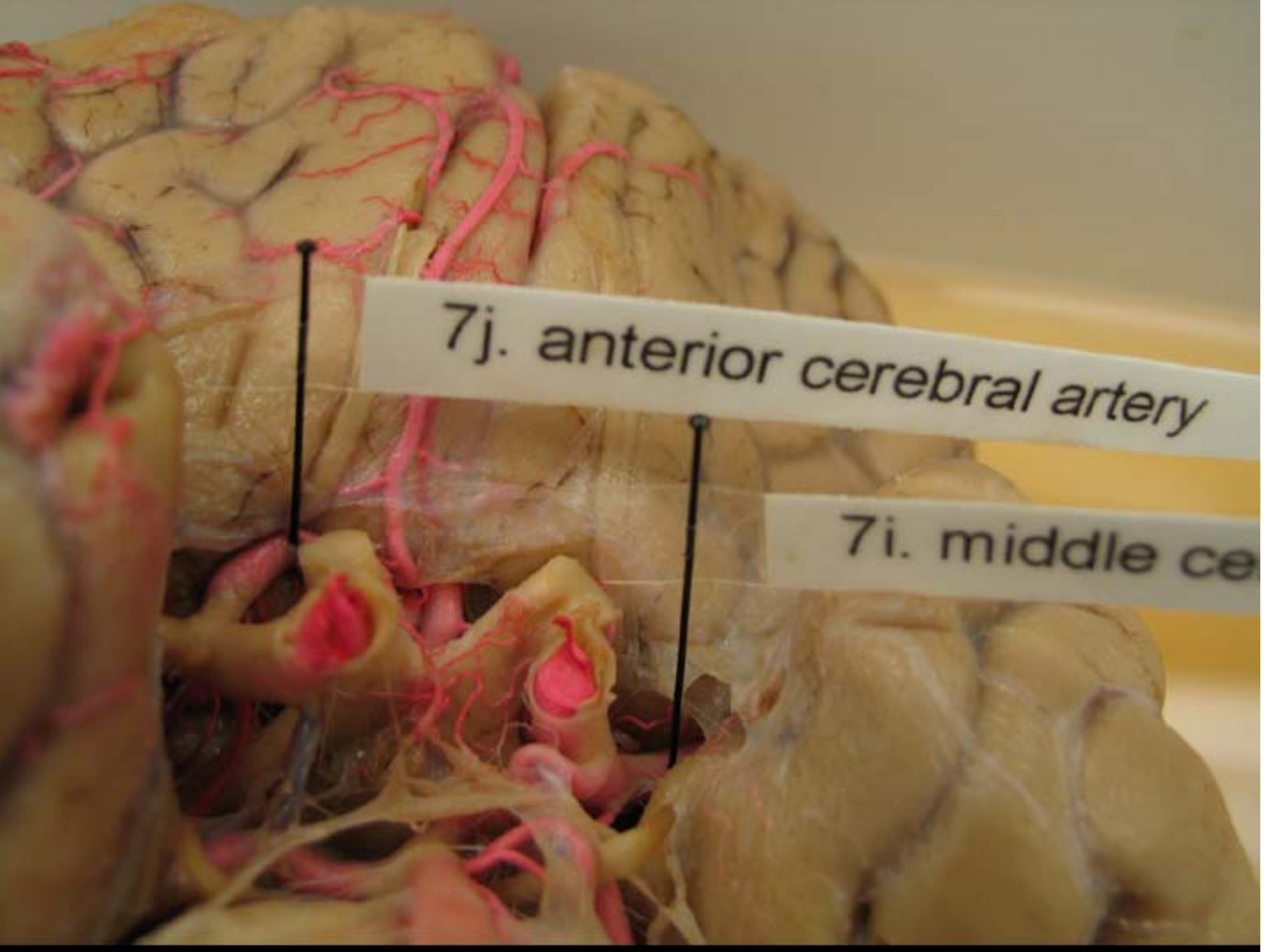
This image shows a detailed anatomical dissection of the posterior communicating artery (7l) and the internal carotid artery (7h). The posterior communicating artery is a small vessel that connects the posterior cerebral artery to the internal carotid artery. The internal carotid artery is a large vessel that supplies the anterior part of the brain. The dissection is performed on a cadaveric specimen, and the vessels are clearly visible and labeled with white tags. The surrounding tissue is yellowish and fibrous, and the dissection is held open by black sutures.

7l. posterior communicating artery

anterior cerebral artery

7i. middle cerebral artery





7j. anterior cerebral artery

This image shows a detailed anatomical dissection of the carotid bifurcation. The carotid artery is shown dividing into the anterior and middle cerebral arteries. The anterior cerebral artery is labeled '7j. anterior cerebral artery' and the middle cerebral artery is labeled '7i. middle ce'. The dissection is performed on a specimen, likely a pig or similar animal, showing the internal structure of the arteries and the surrounding tissue. The arteries are stained red, and the surrounding tissue is stained yellow. The dissection is performed using surgical instruments, and the arteries are held open with forceps. The image is a close-up of the dissection, showing the intricate details of the carotid bifurcation.

7i. middle ce



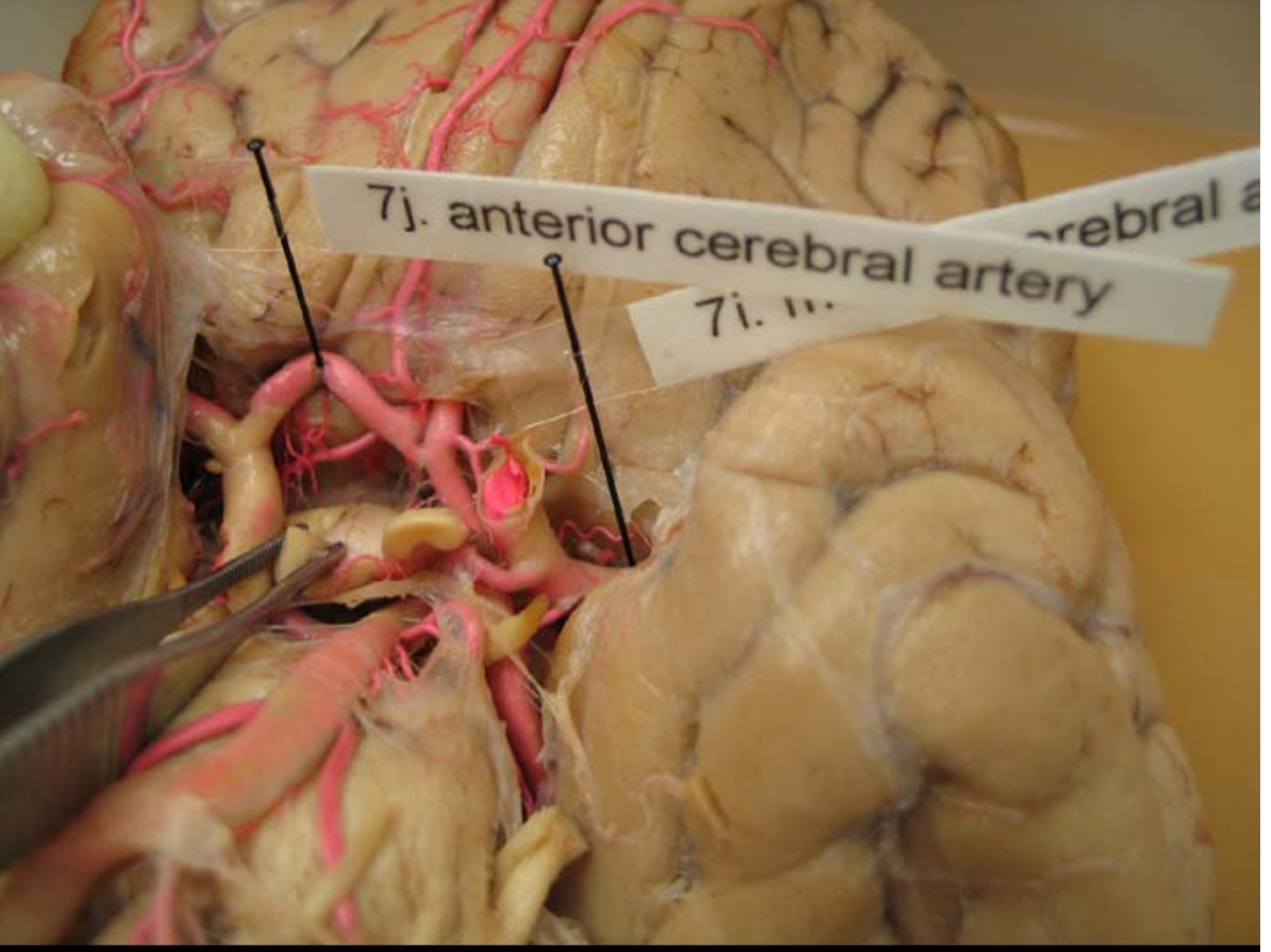
7j. anterior cerebral artery

7i. middle cerebral artery



7j. anterior cereb

7i. middle cereb



7j. anterior cerebral artery

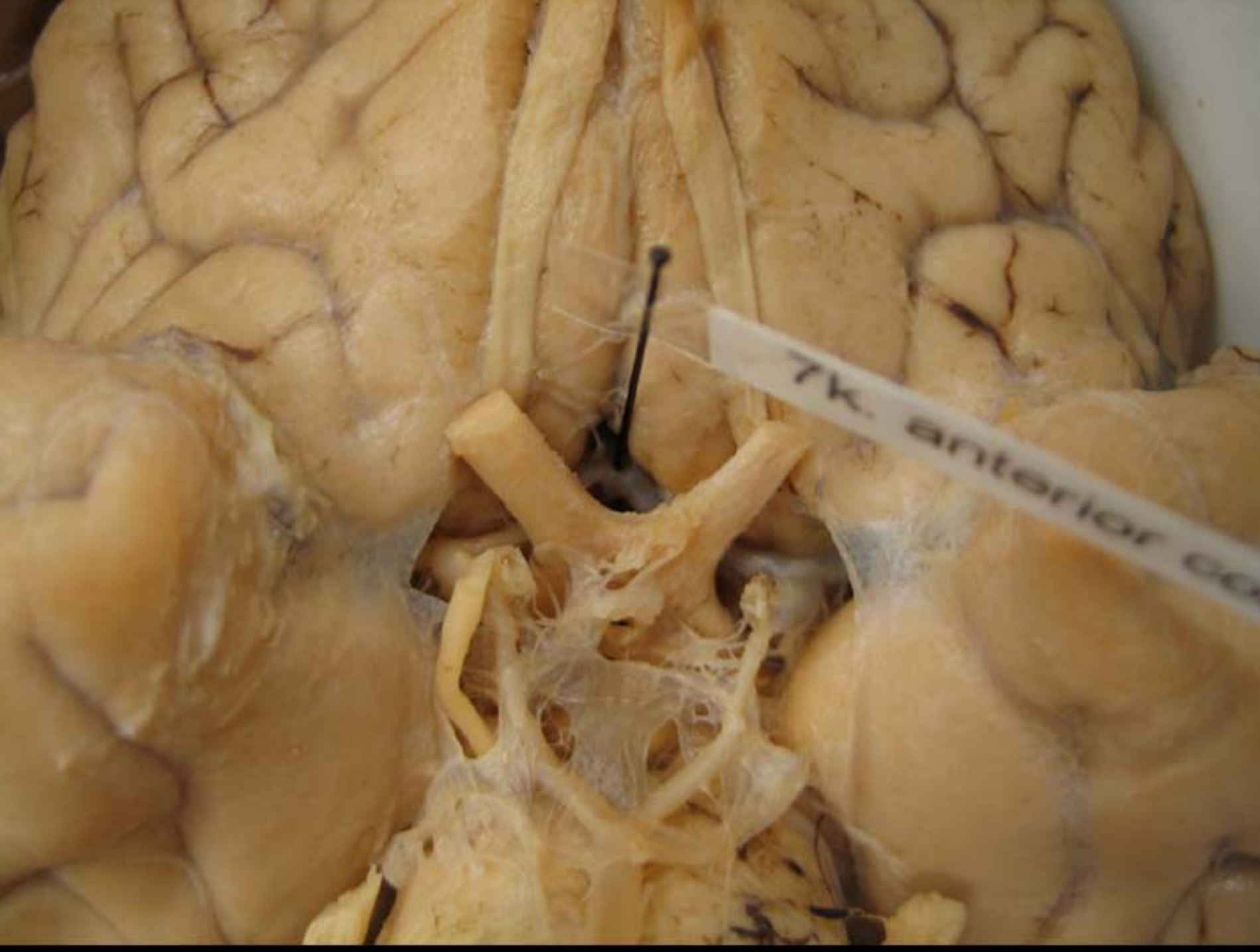
7i. ...

7k. anterior communicating artery





7k. anterior comm



7k. anterior communicating ar



71. posterior commun





7l. posterior

7m. anterior choroid



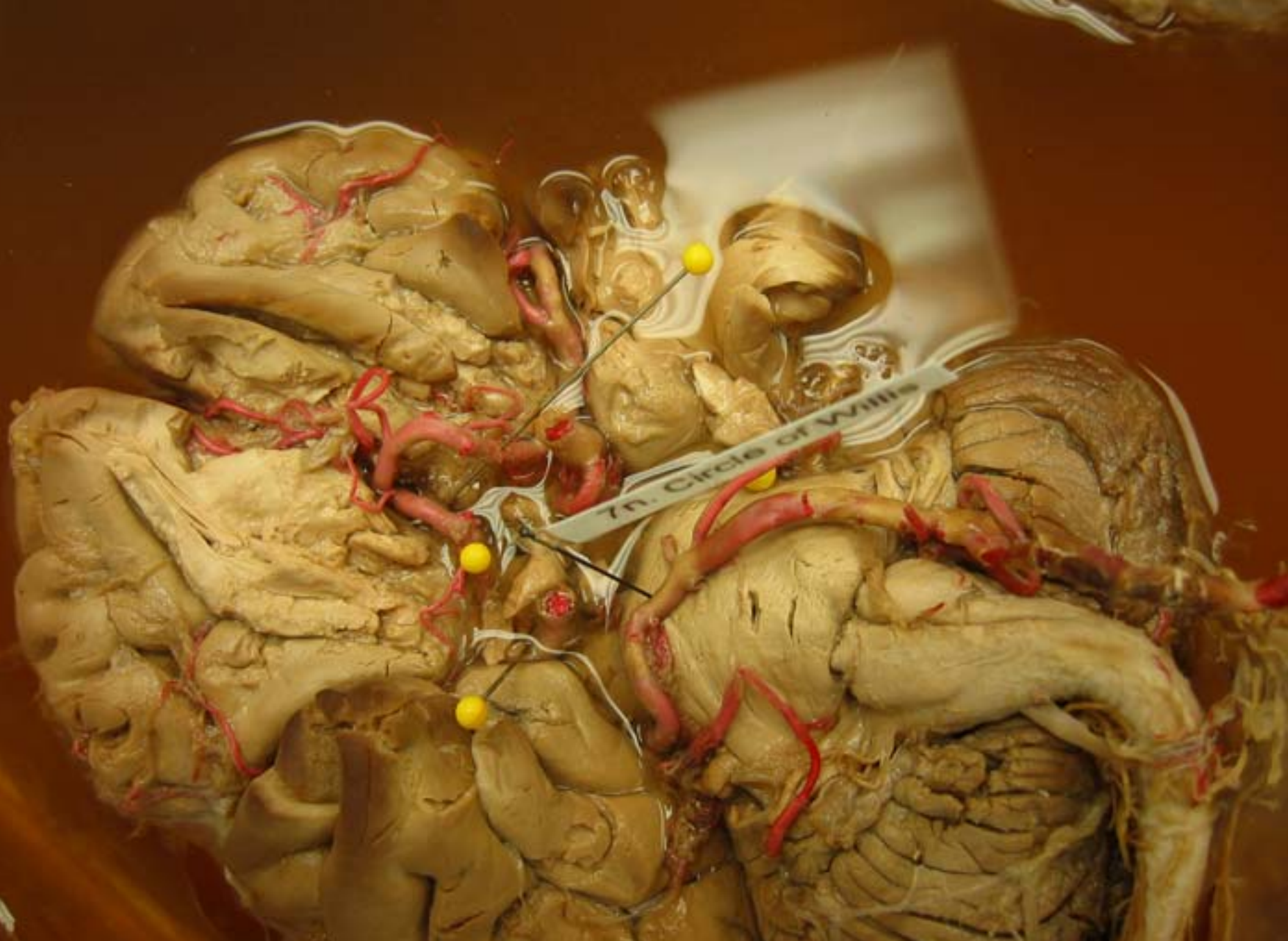
7n. Yellow pins mark the Circle of Willis.



7n. Yellow pins mark the Circle of Willis.



7n. Yellow pins mark the Circle of Willis.



7n. Yellow pins mark the Circle of Willis.



7n. Yellow pins mark the Circle of Willis.