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Vocabulary Builder Reference from...

Hyunsoo Joshua No: Performing brain surgery without a scalpel | TED Talk

https://www.ted.com/talks/hyunsoo_joshua_no_performing_brain_surgery_without_a_scalpel

Advanced Words Only

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Session 1: Word List

incision

n. a sharp cut made in something with a sharp tool, especially during a medical procedure

synonym : cut, slit, laceration

(1) **incision** tool, (2) small **incision**

Patients undergoing **incisional** surgery are often put to sleep by anesthesia.

scalpel

n. a small, sharp knife or blade used in surgery or dissection for cutting tissue or separating parts of the body

synonym : knife, surgical instrument, blade

(1) surgical **scalpel**, (2) precision **scalpel**

The surgeon used an electric **scalpel** to make a precise incision during the operation.

emit

v. to give off or send out something such as light, heat, sound, gas, etc.

synonym : give off, radiate, expel

(1) **emit** a gamma ray, (2) **emit** air pollution

During the unloading, the container box **emits** a clicking sound.

stereotactic

adj. relating to a precise, three-dimensional coordinate system used in medical procedures and diagnostic imaging, such as stereotactic surgery, which involves the use of a rigid head frame or a specialized device to target a specific area of the brain or other body part

synonym : precise, accurate, exact

(1) **stereotactic** biopsy, (2) **stereotactic** radiosurgery

The surgeon used a **stereotactic** device to target the tumor during the procedure precisely.

scrub

v. to clean something thoroughly, typically with a brush and soap or detergent

synonym : clean, wash, sanitize

(1) **scrub** off graffiti, (2) **scrub** dirt from potatoes

She decided to **scrub** the kitchen floor to remove all the dirt and grime.

rev

n. a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute

synonym : revolution, RPM, speed

(1) low- **rev** engine, (2) **rev** up the crowd

He stepped on the gas pedal, and the engine released a loud **rev**.

propagate

v. to spread or promote something widely, particularly beliefs, ideas, or plants and animals through reproduction

synonym : propagate, multiply, reproduce

(1) **propagate** a rumor, (2) **propagate** plants

The company is working hard to **propagate** their brand message to as many people as possible

converge

v. to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet

synonym : congregate, assemble, concentrate

(1) **converge** of a series, (2) **converge** from different points
The two rivers **converge** into one near this area.

inescapable

adj. impossible to avoid or evade

synonym: unavoidable, inevitable, ineluctable

(1) **inescapable** fate, (2) an **inescapable** position

The consequences of his actions were **inescapable**, and he had to face the consequences.

ingenious

adj. showing inventiveness and ability or skill

synonym: creative, innovative, inventive

(1) **ingenious** device, (2) **ingenious** idea

I always look forward to reading his stories since they're so **ingenious**.

intersect

v. to meet or cross one another

synonym: cross, bisect, cut

(1) **intersect** at a point, (2) railways **intersect** the country

Her multidisciplinary works **intersect** music and picture with writing.

cascade

n. a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units

synonym: waterfall, watercourse, step

(1) **cascade** connection, (2) transistor **cascade**

The **cascade** of waterfalls in the national park was a breathtaking sight.

inhospitable

adj. harsh and difficult to stay in or grow; unfriendly and unwelcoming towards people who visit you

synonym: sterile, unfriendly, unwelcoming

(1) **inhospitable** environment, (2) in an **inhospitable** manner

He trekked across some of the most **inhospitable** mountains in the world.

husk

n. the dry, outer covering of a seed, grain, or fruit, such as the shell of a nut or the skin of a corn kernel

synonym : shell, covering, outer layer

(1) **husk** removal, (2) seed **husk**

The **husk** of the coconut was removed to reveal the fruit inside.

scar

n. a mark that remains on the skin after a wound has healed

synonym : blemish, imperfection, blotch

(1) burn **scar**, (2) carry a **scar**

Even after the wound has healed, a **scar** remains.

meningioma

n. a type of tumor that develops in the meninges, the protective membranes that surround the brain and spinal cord, often slow-growing and benign but can cause symptoms and require medical treatment depending on location and size

synonym : brain tumor, meningeal tumors

(1) **meningioma** surgery, (2) **meningioma** treatment

Advanced imaging techniques can help with the diagnosis of **meningioma**.

recurrence

n. the act of happening again or recurring; the return of something, such as a disease or symptom, after a period of abatement or remission

synonym : repetition, return, reappearance

(1) **recurrence** rate, (2) **recurrence** after chemotherapy

The **recurrence** of the flu every winter is a common occurrence.

pancreas

n. a glandular organ in the digestive system that produces several important hormones, including insulin and glucagon, as well as digestive enzymes that help break down food in the small intestine

synonym : gland, organ, islet

(1) **pancreas** inflammation, (2) **pancreas** function

The endocrine function of the **pancreas** involves the secretion of hormones such as insulin.

epilepsy

n. a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors

synonym : seizures, convulsions, fits

(1) **epilepsy** seizure, (2) **epilepsy** medication

The flashing lights at the concert triggered her **epilepsy** and caused a seizure.

obsessive

adj. relating to or characterized by an obsession or excessive interest in a particular thing or activity; tending to dwell on or repeat certain thoughts or behaviors

synonym : compulsive, fixated, besetting

(1) **obsessive-compulsive** disorder, (2) **obsessive** thoughts

Her **obsessive** behavior towards perfectionism often led to burnout.

compulsive

adj. relating to or involving an irresistible urge to do something repeatedly or excessively, often in a way that is harmful or detrimental to one's well-being or relationships

synonym : compelling, obsessive, uncontrollable

(1) **compulsive** gambling, (2) **compulsive** behavior

He had a **compulsive** need to check the stove was turned off every time he left the house.

pave

v. to cover something with a hard, flat material such as stones, bricks, or concrete, to make it suitable for travel or use

synonym : surface, coat, cover

(1) **pave** a new path, (2) **pave** a smoother road

They **paved** the courtyard with bricks, giving it a more polished appearance.

Session 2: Spelling

- | | | |
|------------------------------------|------|---|
| 1. e__t air pollution | v. | to give off or send out something such as light, heat, sound, gas, etc. |
| 2. ca_____e connection | n. | a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units |
| 3. sc__b off graffiti | v. | to clean something thoroughly, typically with a brush and soap or detergent |
| 4. in_____us device | adj. | showing inventiveness and ability or skill |
| 5. pr_____te plants | v. | to spread or promote something widely, particularly beliefs, ideas, or plants and animals through reproduction |
| 6. pa_____as inflammation | n. | a glandular organ in the digestive system that produces several important hormones, including insulin and glucagon, as well as digestive enzymes that help break down food in the small intestine |
| 7. in_____ct at a point | v. | to meet or cross one another |
| 8. co_____ge from different points | v. | to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet |
| 9. pa_____as function | n. | a glandular organ in the digestive system that produces several important hormones, including insulin and glucagon, as well as digestive enzymes that help break down food in the small intestine |

ANSWERS: 1. emit, 2. cascade, 3. scrub, 4. ingenious, 5. propagate, 6. pancreas, 7. intersect, 8. converge, 9. pancreas

10. p__e a smoother road *v.* to cover something with a hard, flat material such as stones, bricks, or concrete, to make it suitable for travel or use
11. in_____us idea *adj.* showing inventiveness and ability or skill
12. ste_____tic radiosurgery *adj.* relating to a precise, three-dimensional coordinate system used in medical procedures and diagnostic imaging, such as stereotactic surgery, which involves the use of a rigid head frame or a specialized device to target a specific area of the brain or other body part
13. ep_____sy medication *n.* a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors
14. in an inh_____ble manner *adj.* harsh and difficult to stay in or grow; unfriendly and unwelcoming towards people who visit you
15. e__t a gamma ray *v.* to give off or send out something such as light, heat, sound, gas, etc.
16. ob_____ve-compulsive disorder *adj.* relating to or characterized by an obsession or excessive interest in a particular thing or activity; tending to dwell on or repeat certain thoughts or behaviors
17. rec_____ce after chemotherapy *n.* the act of happening again or recurring; the return of something, such as a disease or symptom, after a period of abatement or remission

ANSWERS: 10. pave, 11. ingenious, 12. stereotactic, 13. epilepsy, 14. inhospitable, 15. emit, 16. obsessive, 17. recurrence

18. ob_____ve thoughts *adj.* relating to or characterized by an obsession or excessive interest in a particular thing or activity; tending to dwell on or repeat certain thoughts or behaviors
19. ep_____sy seizure *n.* a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors
20. carry a s__r *n.* a mark that remains on the skin after a wound has healed
21. railways in_____ct the country *v.* to meet or cross one another
22. co_____ge of a series *v.* to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet
23. low-r_v engine *n.* a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
24. men_____ma treatment *n.* a type of tumor that develops in the meninges, the protective membranes that surround the brain and spinal cord, often slow-growing and benign but can cause symptoms and require medical treatment depending on location and size
25. seed h__k *n.* the dry, outer covering of a seed, grain, or fruit, such as the shell of a nut or the skin of a corn kernel

ANSWERS: 18. obsessive, 19. epilepsy, 20. scar, 21. intersect, 22. converge, 23. rev, 24. meningioma, 25. husk

26. sc__b dirt from potatoes *v.* to clean something thoroughly, typically with a brush and soap or detergent
27. com_____ve gambling *adj.* relating to or involving an irresistible urge to do something repeatedly or excessively, often in a way that is harmful or detrimental to one's well-being or relationships
28. com_____ve behavior *adj.* relating to or involving an irresistible urge to do something repeatedly or excessively, often in a way that is harmful or detrimental to one's well-being or relationships
29. men_____ma surgery *n.* a type of tumor that develops in the meninges, the protective membranes that surround the brain and spinal cord, often slow-growing and benign but can cause symptoms and require medical treatment depending on location and size
30. p__e a new path *v.* to cover something with a hard, flat material such as stones, bricks, or concrete, to make it suitable for travel or use
31. precision sc_____l *n.* a small, sharp knife or blade used in surgery or dissection for cutting tissue or separating parts of the body
32. ine_____le fate *adj.* impossible to avoid or evade
33. surgical sc_____l *n.* a small, sharp knife or blade used in surgery or dissection for cutting tissue or separating parts of the body

ANSWERS: 26. scrub, 27. compulsive, 28. compulsive, 29. meningioma, 30. pave, 31. scalpel, 32. inescapable, 33. scalpel

34. ste_____tic biopsy *adj.* relating to a precise, three-dimensional coordinate system used in medical procedures and diagnostic imaging, such as stereotactic surgery, which involves the use of a rigid head frame or a specialized device to target a specific area of the brain or other body part
35. small in_____on *n.* a sharp cut made in something with a sharp tool, especially during a medical procedure
36. an ine_____le position *adj.* impossible to avoid or evade
37. transistor ca_____e *n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units
38. r_v up the crowd *n.* a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
39. rec_____ce rate *n.* the act of happening again or recurring; the return of something, such as a disease or symptom, after a period of abatement or remission
40. inh_____ble environment *adj.* harsh and difficult to stay in or grow; unfriendly and unwelcoming towards people who visit you
41. h__k removal *n.* the dry, outer covering of a seed, grain, or fruit, such as the shell of a nut or the skin of a corn kernel

ANSWERS: 34. stereotactic, 35. incision, 36. inescapable, 37. cascade, 38. rev, 39. recurrence, 40. inhospitable, 41. husk

42. pr_____te a rumor *v.* to spread or promote something widely, particularly beliefs, ideas, or plants and animals through reproduction
43. in_____on tool *n.* a sharp cut made in something with a sharp tool, especially during a medical procedure
44. burn s__r *n.* a mark that remains on the skin after a wound has healed

ANSWERS: 42. propagate, 43. incision, 44. scar

Session 3: Fill in the Blanks

1. He trekked across some of the most _____ mountains in the world.
adj. harsh and difficult to stay in or grow; unfriendly and unwelcoming towards people who visit you
2. During the unloading, the container box _____ a clicking sound.
v. to give off or send out something such as light, heat, sound, gas, etc.
3. The consequences of his actions were _____ and he had to face the consequences.
adj. impossible to avoid or evade
4. The two rivers _____ into one near this area.
v. to move or draw together at a specific location; (of lines) to move towards the same point where they join or meet
5. I always look forward to reading his stories since they're so _____.
adj. showing inventiveness and ability or skill
6. Her multidisciplinary works _____ music and picture with writing.
v. to meet or cross one another
7. The flashing lights at the concert triggered her _____ and caused a seizure.
n. a neurological disorder characterized by recurrent seizures or convulsions, which can manifest in a variety of ways and be caused by various factors
8. Patients undergoing _____ surgery are often put to sleep by anesthesia.
n. a sharp cut made in something with a sharp tool, especially during a medical procedure

ANSWERS: 1. inhospitable, 2. emits, 3. inescapable, 4. converge, 5. ingenious, 6. intersect, 7. epilepsy, 8. incisional

9. Her _____ behavior towards perfectionism often led to burnout.
adj. relating to or characterized by an obsession or excessive interest in a particular thing or activity; tending to dwell on or repeat certain thoughts or behaviors
10. She decided to _____ the kitchen floor to remove all the dirt and grime.
v. to clean something thoroughly, typically with a brush and soap or detergent
11. The surgeon used a _____ device to target the tumor during the procedure precisely.
adj. relating to a precise, three-dimensional coordinate system used in medical procedures and diagnostic imaging, such as stereotactic surgery, which involves the use of a rigid head frame or a specialized device to target a specific area of the brain or other body part
12. The _____ of the coconut was removed to reveal the fruit inside.
n. the dry, outer covering of a seed, grain, or fruit, such as the shell of a nut or the skin of a corn kernel
13. He stepped on the gas pedal, and the engine released a loud _____.
n. a measure of the rate at which an engine or motor rotates, often expressed in revolutions per minute (RPM); (verb) to increase the number of rotations per minute
14. The surgeon used an electric _____ to make a precise incision during the operation.
n. a small, sharp knife or blade used in surgery or dissection for cutting tissue or separating parts of the body
15. The endocrine function of the _____ involves the secretion of hormones such as insulin.
n. a glandular organ in the digestive system that produces several important hormones, including insulin and glucagon, as well as digestive enzymes that help break down food in the small intestine

ANSWERS: 9. obsessive, 10. scrub, 11. stereotactic, 12. husk, 13. rev, 14. scalpel, 15. pancreas

16. They _____ the courtyard with bricks, giving it a more polished appearance.
- v.* to cover something with a hard, flat material such as stones, bricks, or concrete, to make it suitable for travel or use
17. He had a _____ need to check the stove was turned off every time he left the house.
- adj.* relating to or involving an irresistible urge to do something repeatedly or excessively, often in a way that is harmful or detrimental to one's well-being or relationships
18. Advanced imaging techniques can help with the diagnosis of _____.
- n.* a type of tumor that develops in the meninges, the protective membranes that surround the brain and spinal cord, often slow-growing and benign but can cause symptoms and require medical treatment depending on location and size
19. The _____ of the flu every winter is a common occurrence.
- n.* the act of happening again or recurring; the return of something, such as a disease or symptom, after a period of abatement or remission
20. The company is working hard to _____ their brand message to as many people as possible
- v.* to spread or promote something widely, particularly beliefs, ideas, or plants and animals through reproduction
21. Even after the wound has healed, a _____ remains.
- n.* a mark that remains on the skin after a wound has healed
22. The _____ of waterfalls in the national park was a breathtaking sight.
- n.* a small waterfall or series of small waterfalls; a succession of stages or operations or processes or units

ANSWERS: 16. paved, 17. compulsive, 18. meningioma, 19. recurrence, 20. propagate, 21. scar, 22. cascade

ANSWERS: