A consideration of general anesthesia with a presentation of instruments / by Frederic Griffith.

Contributors

Griffith, Frederic. Royal College of Surgeons of England

Publication/Creation

[New York, N.Y.]: [American medicine], [1903]

Persistent URL

https://wellcomecollection.org/works/zry2ccph

Provider

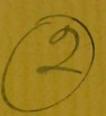
Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. Conditions of use: it is possible this item is protected by copyright and/or related rights. You are free to use this item in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s).



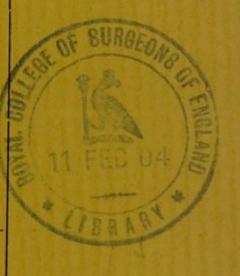
A Consideration of General Anesthesia with a Presentation of Instruments ##





By
FREDERIC GRIFFITH, M.D.,
of New York City

Reprinted from AMERICAN MEDICINE Vol. VI, No. 21, pages 826-827, November 21, 1903.





A CONSIDERATION OF GENERAL ANESTHESIA WITH A PRESENTATION OF INSTRUMENTS.1

BY

FREDERIC GRIFFITH, M.D.,

of New York City.

Surgeon, Bellevue Dispensary; Fellow of the New York Academy of Medicine; Assistant Surgeon at the New York Polyclinic School and Hospital; Assistant Surgeon (G. U.), New York Hospital (House of Relief), etc.

The action of an anesthetic is produced by direct

influence upon the cerebrospinal nerve centers.

Indications for Its Use.—To relieve the pain of operative work; of childbirth; to overcome the general spasm of strychnin poisoning, of traumatic tetanus, and of puerperal, hysteric and uremic convulsions; muscle spasm in fracture and dislocation; and for the relief of pain and to secure relaxation during the passage of gall-stones or kidney stones.

Selection of Anesthetic.—Use ether by choice when the administrator is inexperienced, in atheroma and organic heart disease. Loud murmurs denote power of muscle, therefore any anesthesia is safer than when the

low murmurs show poor compensation.

Use chloroform in brain and eye work in the presence

of lung or kidney disease.

Use nitrous oxid as a preliminary to other general anesthetics, to regain motion in ankylosed joints. Nitrous oxid is counterindicated in atheroma and aneurysm.

Ethyl bromid is prompt in action, pleasant like chloroform, and safer, in that it does not depress the heart. It sometimes produces anesthesia without unconsciousness.

Administration.—No two individuals ever take an anesthetic in exactly the same manner, and the skilful administrator is the one who has recognized this and is simply careful. Ether may be more carelessly used than chloroform, yet both are deadly; chloroform kills quickly, while ether may cause the death of a patient days after operation. The anesthesia is often of more

¹ Presented at the New York Academy of Medicine, Surgical Section, May 11, 1903

importance than the operation, and the operator should at all times keep the anesthetist informed as to the progress of the surgical work. The anesthetist bearing in mind that he could kill any patient with his inhaler, should seek to balance so wisely the depth of anesthesia to the operation as to imitate sleep and not death.

Methods.—(General anesthesia.) Have the patient's bowels thoroughly flushed during the previous 24 hours with calomel, 16 mg. (\frac{1}{4} gr.), every 30 minutes until .13 gm. (2 grs.) are given. Follow with Epsom salts, 30 gms. (1 oz.), in divided dose, or castor-oil, 15 cc. to 30 cc. (\frac{1}{2} oz. to 1 oz). Administer a hot soapsuds enema the morning of the operation, if needed; empty the bladder, allow no food within 6 hours before operation. Examine the heart, lungs and urine. Remove all superfluous garments and attire the patient in clothes to be worn subsequently. Carefully conserve body heat by blanketing, avoiding at all times unnecessary skin exposure. Remove anything loose from the mouth, taking note of dental work.

Place the patient in a recumbent position, with the head level or a little below the body, turned away from the direction of the operator. If a woman, remove hairpins, plait hair, and have it well wrapped up in a towel (this lessens postoperative nausea). Protect patient's eyes with a towel, the skin of the mouth, nose and cheeks, with vaselin. Instruct the patient calmly to listen for your voice and to keep the hands tightly clasped; the tighter the better and the quicker will sleep be produced (Bodine). Allow no other voices or noise.

The implements, beside the inhalers, which are requisite, are a wooden screw, gag, tongue-forceps, a curved needle threaded with silk for tongue suture, swabs fastened to sticks or forceps, sterile hypodermic syringe and needle. The drugs needed are tincture iodin (renders site of puncture sterile); strychnia, 2 mg. to 5 mg. $(\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.); atropin sulfate, .4 mg. to .6 mg.

 $(\frac{1}{150} \text{ gr. to } \frac{1}{100} \text{ gr.})$; whisky.

In the event of an emergency, loosen the clothes about waist and neck, removing corsets if a woman. Use lavage if undigested food rises. Empty the bladder (catheter), and rectum (enema). Examine heart, lungs, Watch in all cases the patient's face, the respiratory movements and pulse (radial preferable, though a single-eared stethoscope attached over the precordial region gives constant information while allowing the hand to be free) *continuously* throughout the operation. Note the ciliary and pupillary reflexes from time to time. By constant care study to give the patient all the air and the least amount of anesthetic possible.

The physician is cautioned against anesthetizing a

female unattended (psychic erotism).

Ether is inflammable, chloroform is not; in night work have the light above (ether vapor being heavier than air always falls). Secure ventilation when using chloroform to avoid injurious chemic decomposition from heat.

Complications.—Mucous collection is not necessarily due to poor administration. In treating this complication place the patient's head to one side, lowered with mouth opened, and swab the throat. If breathing becomes interrupted stop the anesthetic and allow the patient to come to sufficiently for irritation to cause

expulsion of the mucus.

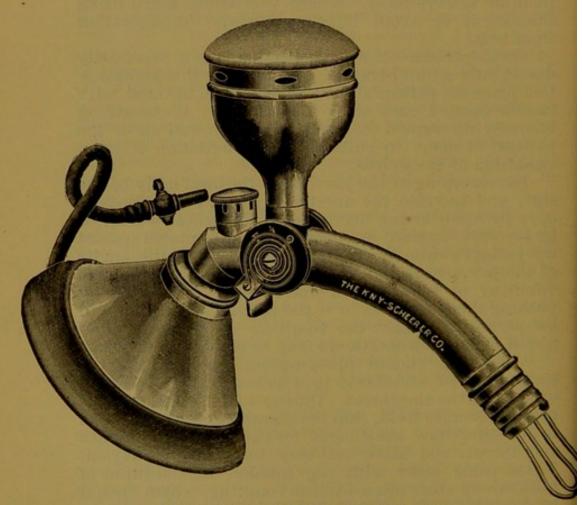
For clamping of the jaws, place the head early to one side, and increase the anesthesia; later force the jaws open by screw or gag (having care for dental work), or by leverage, forward by means of thumbs placed against the patient's chin, braced with fingers from the angles of the jaw. Spasm of the diaphragm denotes onset of vomiting or release from anesthesia. Treat this by pushing the anesthetic, or if the patient's condition will not permit this, allow the vomiting seizure to be completed when deep anesthesia may be carefully renewed.

Vomiting: Should this symptom present during the early stage of anesthesia in a patient otherwise doing well, push the anesthetic. During a later stage, or if the patient becomes livid, stop the anesthetic, turn the head to one side, draw the tongue forward, clear the mouth and throat, and allow recovery from the paroxysm. When using ether with bag inhaler, the addition of fresh strong ether often excites vomiting, which should be combated by commencing with sufficient ether 60 cc. to 90 cc. (2 fl. oz. to 3 fl. oz.) in the bag to carry the patient well into the anesthesia. Sometimes no further addition will be necessary during the entire operation if care is taken to prevent evaporation from the inhaler when not in use. Owing to heat evaporation a greater quantity of ether is required in summer.

Respirations are sometimes entirely suspended; if in the early stage, push the anesthetic to get regular

¹See the New York Medical Journal, May 10, 1902, for description of instrument.

action before consciousness is lost. Later it is a danger signal, signifying that the anesthetic should be stopped. Poisoning from idiosyncrasy is rare; poisoning through an overdose shows itself in lividity or pallor of the face, stertorous breathing, sudden or progressive dilation of the pupil, failing pulse (best seen in expression and color of face), thready and marked irregularity of pulse, complete loss of reflexes, failing or irregularity in respiration,



Dr. Frederic Griffith's combined inhaler.

darkening of the blood at site of operation, fall of tem-

perature, and loss of body tone.

Treatment.—If ether is the anesthetic it should be stopped, the head drawn to one side, the tongue brought forward, and artificial respiration administered. Either Sylvester's method of forced artificial respiration or Labordy's method in which the tongue is drawn out forcibly 12 to 16 times per minute. The body heat should

be maintained, and atropin sulfate, .4 mg. to .6 mg. $(\frac{1}{150})$ gr. to $\frac{1}{100}$ gr.); strychnin, 2 mg. to 5 mg. $(\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.) administered. If chloroform is the anesthetic, stop the anesthesia, slap the chest with a wet towel, put the head down, draw the tongue forward, and elevate the feet. This acts mechanically by causing the blood to sink to the right heart from the abdomen, and probably causes the heart to contract; rub the patient with ether, apply mustard, the electric battery, and maintain respiration by artificial means, which will force the chloroform from the lungs. With these procedures ammonia inhalation will be of value, as will the administration of tincture of digitalis 10 drops to 20 drops, and strychnin 2 mg. to 5 mg. $(\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.) hypodermically, oxygen inhalations, and amyl nitrite. Forcible, rhythmic compression over the precordium (120 per minute); as a last resort, interthoracic massage. If morphin has been used before the general anesthesia, the additional depressant action of this drug will have to be combated. If nitrous oxid gas has been the anesthetic, stop the administration, force the jaws open, draw the tongue forward, apply forced artificial respiration, and give atropin sulfate .4 mg. to .6 mg. $(\frac{1}{150}$ gr. to $\frac{1}{100}$ gr.) strychnin, 2 mg. to 5 mg. $(\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.).

Mortality.—Statistics show for ether 1 death to every 26,000 administrations; for chloroform 1 to every 10,000 to 16,000 administrations. According to these figures chloroform causes five times as many deaths as ether. Nitrous oxid gas administrations show 1 death to every 120,000 to 150,000. The chief causes of death are early, due to fright; later, to

overdose.

Implements.—The combination anesthetizing inhaler, which is designed to fill the want for a single instrument combining anesthetics in a safe manner at minimum cost. It consists of a metallic face-piece which prevents collapse during respiratory action, the patient's face being protected from pressure by a pneumatic cushion. By means of a single valve the gas is delivered to the patient in increasing proportion until he is thoroughly anesthetized, the time varying from 30 seconds to 4 minutes. The change from gas to vapor anesthetic is accomplished by placing the filled cup in position and slowly releasing the valve. Substitution is gradual and at all times under control of the anesthetizer. A supply of fresh air may be constantly admitted to the mixing chamber by means of slide openings at the top of the cup. While

ether has been the anesthetic most used in combination with nitrous oxid gas, I have employed chloroform in the same capacity. With this object in view, the receptacle has been made of such proportions as will allow for adequate quantities of either anesthetic being employed upon the gauze or sponge in the retainer. When employed with chloroform the cap is removed to allow for the free entrance of air. Rebreathing of gas is provided for by a stopcock between the gas bag and the tank, and

by occlusion of the exhaust valve.

I have employed the instrument in a case of gas-and-chloroform anesthesia lasting 2½ hours, while a surgeon removed stones from a sacculated bladder through the perineum of a man of 73. Reaction was prompt, but thepatient died upon the tenth day from exhaustion due to an infection cystitis. In another case of gas-and-chloroform anesthesia lasting 35 minutes in a man of 81 suffering with gangrene of the foot, amputation was performed a few inches below the knee-joint. The reaction was prompt, and the man is living today, 18 months after operation.

American Medicine

THE TS HE THE THEORY OF THE PROPERTY OF THE PARTY OF THE

STATE OF THE PARTY OF THE PARTY

Printed to the last of the las

A subscription to American Maddeline

15 an emineral security

mailtenant lesson

American Medicine

FOUNDED, OWNED, AND CONTROLED BY THE MEDICAL PROFESSION OF AMERICA.

GEORGE M. GOULD, Editor G. C. C. HOWARD, Managing Editor

Subscription, \$5 a year Advertisements limited to 44 pages

A subscription to American Medicine is an endorsement of professional journalism.