A Dissertation
upon
Anesthesia
in
Natural and Morbid
Parturition.

Being the subject of a graduation
thesis

by

Table of Contents

Introduction 1-13

Part 1

Anesthesia in Natural Labor

Section 1

A Plan for Anesthesia — 15-53

Section 2

Application of Anesthesia, and its Results — 55-101

Part 2

Anesthesia in Morbid Parturition 103-119

Paroxysmal Convulsions & Hypothermia Concerning formation of Sugar during Anesthesia 115-119

Cautions regarding anaesthesia — indications to the use of Chloroform in Midwifery 119-20
Introduction

"What shall I write for a thesis?" had been a question debated with me for a long time past; if I had asked myself the more rational question, "What can I write for a thesis?" the matter would have been set at rest and I might have finished long ago.

A few remarks may be inappropriate in explanation of my selection of "Anesthesia in Natural and Morbid Perturbation" as a subject for my thesis. From the earliest knowledge I obtained of the effects...
Effects of Chloroform—I have ever felt a very great interest in the question of anaesthesia. For upwards of two years (1850-51 and 52) I frequently administered Chloroform in the Operating Room of the Northampton General Infirmary, as well as in later working in private practice.

Since the winter session 1852-3 I have frequently employed anaesthesia in midwifery practice—chiefly in cases of Natural Labour—and the chief object of my present attempt is to add a few points of material in the way of evidence in proof of what Professor Simpson has so long and conscientiously advocated—viz., the safety and great utility of anaesthesia in Natural Labour. Perhaps I should apologise for having selected
selected to have yet a subject at the present one—a subject with which every second or third year student in the Edinburgh school is supposed to be familiar conversant, but I have preferred undertaking a task, with which I consider myself practically acquainted—to enunciate principles which I have confirmed by actual experience, and to state experiences drawn from positive facts, than to follow the more fancied and fashionable plan of making up the works of standard authors and compiling from them the materials for a book. Besides, it is well known that the curriculum of a medical education is now so extensive, as to leave but little to no lecture time to the student for the pursuit of original observation.
The propriety of employing anesthetic means in natural parturition is not admitted by all medical men, and at the present time there are so many conflicting opinions, and varied statements upon the subject, that I consider every evidence of evidence provided only if it is the result of dispassionate inquiry, is so far valuable that it must tend to settle the question in last unequivally to be desired. I have now used Chloroform in many cases of natural labor, I am satisfied of its efficiency and safety, and I feel proud to acknowledge my obligations, and to dedicate this thesis to a grateful tribute to Professor Simpson — by whom I was taught the principles of midwifery.
Therefore humbly put forth this
my maiden effort, imbued
with the knowledge of its num-
ber and great imperfections, but
at the same time, controlled
by the conviction that I have
said little, but what I have
verified by actual experience,
and throughout the whole have
striven to adhere most strictly
to the truth.

John H. Watkin, M.R.C.S.

Edin? Dr. Hammond Place
March 1856
Part I

Anesthesia in Natural Parturition

Section I

A Plea for Anesthesia

The employment of anesthesia in natural parturition is almost universal in Scotland, but its use is comparatively restricted in England—and especially so in the provincial districts. Speaking of the early opposition it met with in England, I. Murphy says the introduction of such an agent into practice was not, however, very flattering; clouds of disapproval were collecting on
The horizon which soon rises and bursh in such a storm of controversy, that we were reminded of the poisons of the middle ages, only that in these later disputes rather less attention was paid to logic.

Why had not Chloroform come into more general use in midwifery by medical men? Are they afraid to use it? I can scarcely think so, for surely they use it elsewhere. Against all more deadly poisons than Chloroform. But I think of the question more deeply into the subject we shall arrive more nearly at the truth; those men who judged it, especially its use in obstetric practice - do do, in very many instances.
Cloroform in Childbirth p. 2
instances I believe, because it is a sweeping innovation:
"Is it new?" "Yes"—that is enough, never mind! Be it an improvement or not if it is quite sufficient to raise up a whole army of opponents to its introduction. Such had even been the fate of Pest discoveries—such probably her will be their fate. Such was the case when the immortal Jenner made known his discovery of vaccination; so it was when the humane Cottle took off the shackles and manacles from the restrained humanity. In the manner, did the same spirit of oppo-
In future years, a Scout Simpson shall immortalize himself by discovering, and bringing into light and use — from the neglected corners of some dilapidated house, perhaps, an agent which shall effect a certain and potent specific in that dread ful and deadly disease — Cholera. I dare venture to predict that notwithstanding the advance ment of civilization and improved treatment, there will be many narrow-minded men who will rigorously oppose the adoption of so magnificent a discovery. Its not purpose, in this little treatise, to enter upon the question of aesthetics being justifiable in natural perturbation.
parturition—th at it a question.

I think, fairly settled by all

rational men. Many have

been the arguments vigorously

staged against the employment

of chloroform in labour—

religious, moral and medical.

But happily, these have been

computed. We are not likely

to see the revival of such an

argument as that the pain of

labour is a part of the pain

of child birth—and that it is

therefore ungentle in medical

wise to attempt to alleviate

and mitigate the pain and

perils of child birth by such

an agent as chloroform—

such reasoning is worthy

only of "foul headphials", pesants and old maids.

In my own part, I think it is

befitting
befitting and grateful occupa-

tion — to make a religious

duty of Man to exercise his

utmost ingenuity to discover

means, by which to alleviate

the suffering and diminish

the dangers peculiarly incurred

by that lot to which, in nat-

ural, he owed so much for

civilization and refinement, and

upon whose defense, to a very

great extent, he owed the

comfort and happiness that

fell to his lot in the sub-

lunar sphere of existence.

The employment of Chir-

ergists in particular — natural

and moral — is daily increas-

ing. Not only medical men, but pa-

tenants’ house doves become convinced

of its great utility and safety

in midwifery, even to early

births.
at January 1840 Professor Simpson, in a letter to Professor
Meigs of Philada Univ., wrote
that midwifery, most of all
of my medical brethren in
Edinburgh employ it constantly.
He added himself indeed we
not being doomed to suffer
when suffering it so totally
unnecessary. — I think the
best test argument the proof
of the safety of anaesthetics
in midwifery — it the fact that
of the many thousands of
cases in which it has been
employed, not one fatal acci
dent had been recorded. Some
practitioners vigorously abused
its use because, how and when
a fatal result had followed
its administration during a
surgical operation, now it
recent to be that a very close
football, if's brother does an
amount has been advanced in
many cases to these men.
The introduction of anaesthesia
in childbirth is materially
different from the mode in
which it is employed in sur-
Gical Operations. In the latter
instance, the process is usually
as quickly as possible, whereas
in the former the proceed much
more slowly and gradually—in
many cases, removing only the
irritation of pain, without the
seriously affecting mental or
physical. I am satisfied, too,
that in natural labor and
anaesthesia does not require to be
to keep as when it is induced
even for slight surgical per-
adence. So is only in very
hate that we require to
employ very deep anaesthesia
in the operation — in
cases requiring a manual or
instrumental interference for
their act — to carry the effects
of Chloroform in natural labour
in such an extent would not
only be unjustifiable, but ab-
olutely pernicious — it would
be the abuse, not the use of
the remedy — for, by such prac-
tice, we should inevitably think
the good we were teehing to ob-
tain, that much as we should
materially interfere, and totally
suffer not in utter, decisive action —
the very thing we stood to
promote. Again, in the em-
ployment of obstetric anal-
thesia, the nurse that we seek
element of its safety is the
very
very gradual mode in which it is induced. This point at ample time to observe and note all circumstances attendant upon it — any contraindications on the part of the patient — and, especially, her tolerance of the remedy.

The great desideratum is to procure the purest chloroform possible, and if we part this with the necessary amount of caution, I believe we very rarely, or never shall encounter any risk of fatal consequences to our patient. In my own recently limited experience, I have used at much as one ounce of chloroform in a single labor, the duration of anesthesia extending very nearly over six
hours: I have repeatedly used four ounces, yet I never saw any ill effects from its employment. But a very much larger quantity may be continued and calcined, and the air be maintained for much longer period, with perfect impunity, by an obstetrician; for Simpson has employed eight, ten, twelve, and even fifteen ounces in a single case, and he related one instance of a lady who continued thirty-five ounces to the space of thirty hours; and such instances, I doubt not, could be multiplied.

That the use of chloroform in midwifery will become very general, if not almost universal, I feel convinced.
to think that, in a few years,
the many thousands of women
who have received and appreci-
ated the magnitude of the
issue will do industriously, but
not the less surely, influence
the opinion of medical men,
and society in general, as to
render the employment of this
change in natural parturition
an almost invariable rule.

I think this opinion is fully
supported by the fact that new
practitioners who, a very few
years ago, (from love of economy,
perhaps) mostly ignobly and
indifferently, adopted it now
have considerably modified, and
in many instances completely
changed their opinions, have
come to adopt the practice
advocated by Dr. Simpson, and

are now as ready and eager to wield their pens in favor of obstetric anesthetics as they were active, formerly, in deserting its value — adopting its perniciousness — and, unjustly and senselessly injuring its originator. Already, we begin to see glimpses of the fulfilment of Dr. Simpson's prediction in 1842. — "I have no doubt that those who most bitterly oppose it now will be yet at least twenty years hence, amazed at their own professional inability. They allow their medical prejudices to smother and rob the common dictate of their profession, and of humanity." (Letter to Dr. Begg) and to those men who still without assigning any valid reasons,
reason, refuse to follow what they sincerely call the new jangled system. I would apply the remark of a very illustrious statesman: "The case how you erect an innovation if it be an improvement, but you may have to accept it as an improvement when it is no longer an innovation."

The principal advantage which, in my opinion, are capable of being derived from the employment of analgesia in natural pasturage are the following:

I. The mitigation, suspension, or total abolition of physical suffering, and mental anxiety during the process of labor.
and especially of primiparous women, of the duration of the process of parturition, and, by these means.

III

The conservative influence it exerts upon the system of the patient — thus tending to promote the rapidity of periperal convalescence.

IV

The material aid it affords the accoucher in making an early and accurate diagnosis of the progression and position of the fetus, and appreciating the progress of the labor.

V

The simplicity, safety, and certainty of the agent we employ to produce these effects — chloroform bariaising in the qualified
qualities, very anaesthetic
hitherto known.

II. Its especial value to women
of a nervous and hyperasthenic
 temperament, by moderating
their anxiety, mental excitement
and agitation, and avoiding
any injury to their expensively
refined delicacy.

In addition to these
advantages there is still another which should not be
lost sight of, viz. indeed,
which I think will have very
great influence in promoting
the practice of anaesthetic
in midwifery. The advantage
is a prospective one. It has
been observed by most critical
men who employ chloroform
in
in labour, and if it especially
indicted above by Dr. Wrington
that females who have been
recovered whilst in a spasm
facile state, (and here refer
to cases of natural labor
and to those attended with
imminent risk to the mother),
then they again become preg-
nant look forward with com
placency, and comparative
tranquility of mind to their
approaching confinement.
Now, when we contrast this
state of mind and body
with the distracting anxiety,
and ceaseless anticipation al-
most bordering on despair, with
which a woman, who has cer-
tainly escaped with life from
the pain and peril of a
previous parturition, must
look forward to her exert labour, we must conclude, by true physiological reasoning, that this mental quietude must produce a health valuable conservative effect upon her physical constitution. To be drowning a man will catch up and cling to a straw. So, in some very desperate cases, will a woman found her hope and faith upon chloroform as the last earthly means of salvation of her life, and, happily, we know that in some instances the anchor her hope upon a sure foundation. So such unfortunate beings chloroform is a precious boon—an inextinguishable shelter and, \textit{as the gentle rain from heaven it} will help.

If the foal's knees that given and her that takes.
Lastly, in the name of humanity, plead for the use of anaesthetics in surgery. Can we, as men and fellow beings, stand by and witness the dreadful sufferings and agonizing struggles of that frailty and yet withhold that means, so beneficently placed in our power, of rendering aid, relief, and humanity from pain? Statistics prove that maternal mortality increased, in a swiftly advancing ratio, as the duration of the process of parturition is prolonged, and statistics are being carefully collected and are fast accumulating that will prove - let us religiously hope - that the proportion of maternal death is diminished by the employment of
Of anaesthesia in labor.

"I knew that to do good and doth do not, to sin it is Sin."
Part 1

Anesthesia in Natural Parturition.

Section II. - Application of Anesthesia; and its Results.

Towards the end of the preceding section I have stated what I consider to be the principal derived from the use of chloroform in labor. I must now proceed to describe the means by which those advantages are to be obtained, and in the present section I propose to discuss the mode of producing anesthesia - and some of its results.

Before we surly chloroform we should have very positive evidence
Evidence of its purity, fortunately
it is an agent incapable of
sophistication to any great ex-
tent, without detection.

In composition Chloroform
is a tercetride of the theoretical
radical formula (C₂H₂), its for-
maldehyde therefore is C₂H₄, C₂ and
its Equivalent number 14.95. It
possesses a specific gravity vary-
ing between 1.426 to 1.45; if it is
below 1.426 it has probably
been diluted with alcohol.

Major Duncan & Lockhart of
this city (from whom I have
formerly procured my Chloroform)
preserve it of an unchanged
density of 14.97 — but Professor
Gregory has obtained it as high
as 15. — Chlorine forms light-
ness of its whole weight.

Chloroform vapor, as compared
with
with atmospheric air had a density of 0.12. Perfectly pure chloroform possessed the following character: it is transparent and colorless, had a warm and intensely sweet taste, gives an effervescence somewhat resembling that of apple; it is very highly soluble, but sparingly inflammable. It is very soluble in ether and alcohol, but required 2000 parts of water for its solution. Its boiling point is 140° Fahrenheit. The heat density of its vapor is a point of great importance in the gas-in-chamber.

Prof. Gregory used the following test for the purity of chloroform: perfectly colorless sulphuric acid of the density of 1.20 at least when treated with pure chloroform.
remain colourless, but if the chloroform be impure it becomes yellow or brown. Sulphuric acid in the cold state does not settle, not upon chloroform, but Dr. Christie has pointed out that chloroform, when that sealed, although it may remain unchanged for some time, is saturated with unstable compound, and癸at the becoming liberated, which, when under it, will adsorb for inhalation.

The most common adulteration of chloroform is rectified spirit; a low specific gravity will tell into this, but an excellent test is to drop a little of the suspected fluid into water—it will if quite pure, fall to the bottom and maintain its transparency. But if it has been diluted with spirit.
spirit it will become pale yellow.
Sulphuric Ether, too, is sometimes added for purposes of modification if in large quantity - the fra-
sence of the Chloroform is not so agreeable - but even in smaller quantities it can be
detected by the test of O. Bobertin.
Pure Chloroform dissolves a small quantity of toluene acquiring a
very beautiful violet color precisely resembling in tint the
color of toluene, but if the
Chloroform is mixed with
Sulphuric Ether, even in small
quantity, the ether is done-let
or even hard brown. If the Ether
is in any quantity
And the most dangerous
impurities of Chloroform are
Hydrochloric Acid, and some of
the hydro-carbon: lined well
detect an acid reaction, and the hydrocarbons may sometimes give a color to it. The best test is to shake the chloroform with water, allow it to subside, and then heat the water with a solution of nitrate of silver which will detect free chlorine or hydrochloric acid: the latter impurity may be removed by distillation with lime.

Action of Chloroform.
In larger doses it acts as a narcotic and anaesthetic, but in smaller doses as a stimulant. When inhaled it produces true narcotism and deep coma, if precedent, in some instances by convulsions, and if inhaled it carried too far it may give subsequent death—probably by affecting
The lungs primarily in these cases, but more of this anon.

How does chloroform produce anesthesia? - In all probability by its action upon the central nervous system, but it is not improbable that anesthesia is partly induced by the vapor being carried by the blood to every part of the body.

Chloroform is not very soluble in the blood; it may be mixed with, but it is not combined with it - hence, probably the vapor pervades the body in a free state.

Immediately the vapor arrives at the brain, some hematosis of it influences beings to take place: we are thereby well acquainted with the order of phenomena which occur.
character in the same individual (at this period, sensation is dull, neither hot nor cold, but only a feeling of uneasiness, of dislike) an over-powering emotion steals over the frame, generally beginning in the lower extremities. It is a negative sensation—neither painful nor pleasant, but absolutely indescribable—power of motion thus becomes affected, but still vision remains, one can hear noises, or utter some sensation coherently, and even reflect upon what one is doing. The vision now becomes dim, perception very dim, obscure, and reflection lost—the impressions, at this stage, are wholly very momentary—I have always felt when I was becoming involved in any effort made to write.
it is fruitless for sleep has
intervened - common and special
sentation are annulled. Motion
is completely abolished, perception
reflection and solution are both
have become merged in a twinkle
and dream of eternal delight
unhappily here remembered the
continually returned. Such is
the order of phenomena and
impressions I have noted when
have been anesthetized - say
perhaps forty or fifty times
and I doubt not they closely
appropriate to those in other
people.

Probably then, the purely
cerebral spinal nerves are first
affected and the gamma in-
bowing common and special
sentation - kept in order come
the nerves preceding over deflect
action.
reflex action - irritability is common stimuli to both, and motion, too. Lastly we know the respiratory centers become affected - and this is indicated by stertor or incomplete inspiration - but here we remove the chloroform - beyond this we never should go - or the impending danger of death by chloroform will surely happen.

Mode of induction of anesthesia. Having ascertained the purity of the agent to be employed our first attention should be to secure a due admixture of air with the chloroform vapor. Probably a large proportion of the deaths that have been caused by its inhalation, have occurred in consequence of impurity of the
the drug, as a very culpable neglect in the mode of administering it. 

In Warren's Boston U.S. advocated the dilution of chloroform with rectified spirit (strong chloric ether), and stated there it kindled but little in employing it. To show accord in this feeling, and even that in its effects will follow the use of alcohol at the chloroform became notorious before it. — Very much doubt the propriety of this practice. Even in surgical operations where the duration of the anaesthetic state is not long, and consider it totally impracticable, if not pernicious in obstetric practice. Where the vapor, perhaps may have to be inhaled for many contractions
hour. I have never employed this so called chloric ether but I have been assured the most unpleasant symptoms frequently follow its administration.

If we wish to render chloroform safe for inhalation we must dilute it with atmospheric air. The commonest, deadliest, most uncomfortable and therefore least safe to employ I have never employed any of the multiparous inhalers in seious people have invented pretty boxes but useless and hurtful - and perhaps instruments of danger in mixing. At all events render the agent less increased than it really is.

For a very long time I used nothing but a towel or large

umberchief
handkerchief - folded in the shape of a cone - with a piece of lint. A sponge placed at its apex. But I found, unfortunately, that in cases of lingering labor not only was a great quantity of chloroform consumed, but very much was lost by evaporation during the intervals it was removed from the patient's mouth. Here were two great objections to this - firstly - a very unnecessary amount of chloroform diffused in the atmosphere surrounding the patient - which was not desirable for her sake, and in many cases, very unpleasant to her attendants - secondly - there was an absolute loss of expensive material. So remedy this I have for a long time employed
a very simple means for giving
the chloroform: - a circular
piece of chamois leather about
four inches in diameter is
attached a piece of jutta-
fercha of the same size. By
the free edge of each being
bound together, when chloroform
is given it is poured upon a
piece of cloth and placed upon
the jutta fercha side of the
apparatus, which is then tied
with cup-stapler - and when
it is removed from the latter
it can be folded up. The amount
of chloroform considerably
diminished - this is a very
simple but effectual means,
and highly recommended itself
to those with economy as an
object. The principle is precise
of the same as when we bulky
The travel of lumbalschief.
In all cases when we give Chloroform we should attend to effects produced rather than to the quantity employed to principle rather than to rules.

The most important result of anaesthesia in natural labor is the taming of pain: we must suppose this to have a very salutary influence upon the woman. In a table Dr. Young had drawn up from various facts it will be seen how the abolition of pain and shock diminishes the per centage of death after large operations, as most of the cases: we cannot dispute that the ratio of maternal mortality after natural labor will be proportionally diminished, in succes-
A Table of the Mortality following Amputations of the thigh.

<table>
<thead>
<tr>
<th>Name of Hospital</th>
<th>Number of Cases</th>
<th>Number of Deaths</th>
<th>Per Centage of Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melrose - Varied Hospital</td>
<td>201</td>
<td>126</td>
<td>62</td>
</tr>
<tr>
<td>St. Pancras - Edinburgh Hospital</td>
<td>43</td>
<td>21</td>
<td>49</td>
</tr>
<tr>
<td>St. Philip's General Hospital</td>
<td>987</td>
<td>1235</td>
<td>44</td>
</tr>
<tr>
<td>St. Luke's - Glasgow Hospital</td>
<td>127</td>
<td>46</td>
<td>36</td>
</tr>
<tr>
<td>St. James - British Hospitals</td>
<td>284</td>
<td>107</td>
<td>38</td>
</tr>
</tbody>
</table>

Of patients in an unbleeded state, 145 died. 25
as when the process is natural, there cannot be so much shock to the system.

Professor Ruben asserts that chloroform has an influence in relaxing the uterine and maternal muscles, and thus promotes labor.

Dr. Simpson had made several experiments which have led him to believe the contraction of the uterus in parturition is not in obedience to a spinal reflex action—but, as he would deduce from the results of his experiments, an essentially reflex ganglionic action. Now, if we accept this as true, we must see how valuable chloroform must be in labor—far indeed. The ganglionic system is affected by action as though not be

intercepted...
interfered with; moreover, we remove those emotional causes which are apt to disturb the current of labor. There is little doubt that the duration of labor is diminished by the employment of anesthetics and especially in primiparous women.

Professor Simpson has made a very ingenious speculation that, as human intellect progresses, an increased amount of gray matter of the brain must necessarily cause cephalic expansion—hence, in two or three centuries natural labor will be a more difficult and hazardous process; so we may readily imagine that our descendants will have to revert with gratitude to the memory of
him who introduced methods in midwifery.

From my own observation, I am satisfied that puerperal convalescence is promoted by anaesthesia having been employed in labor. I have fortunately attended women who have borne many children, without anaesthesia; these almost invariably find their chloroform — and they have, almost without exception, contracted their scrofula and lost recovered after its use with their former convalescence — anaesthesia has gained by the comparison.

I firmly believe that chloroform in labor is much safer than in surgery—we employ less power and a lighter anaesthesia — the end in
chamber is more quiet than
the operating room—a very
favorable circumstance for
anesthesia. I subjoin a table
showing the results to mother
and child in 1281 cases of
natural labor, where anesthesia
was employed.

<table>
<thead>
<tr>
<th>Name of Operator</th>
<th>Mother Living</th>
<th>Mother Dead</th>
<th>Child Living</th>
<th>Child Dead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Channing</td>
<td>49</td>
<td>0</td>
<td>49</td>
<td>0</td>
</tr>
<tr>
<td>Correspondents</td>
<td>471</td>
<td>0</td>
<td>471</td>
<td>0</td>
</tr>
<tr>
<td>Dr. Pelham</td>
<td>20</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Dr. Murphy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Simpson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lastly I subjoin the rules laid
down for the application
of anesthesia in natural
labor by Dr. Simpson. I was
taught them in his lectures.
Pagination is inaccurate in original volume
and I have always adhered to them — and am convinced if they are implicitly obeyed, the happiest results will follow the employment of anaesthesia in natural labor.

Rules for the Administration of Chloroform in Natural Parturition.

I. Begin it when the patient commences to complain of much pain, generally towards end of first stage.

II. Always calculate perfect quiet help around the patient particularly when first giving Chloroform.

III. Only give it during the time and
always withdraw it during the interval. Exceptions

IV. When given during the first stage, the anesthetic need not be deep, except the suffering be great or the symptoms of anaesthesia be disagreeable.

V. In the second stage propofol make the anaesthetic as deep as to testing all sensibility.

VI. Do not allow the urinary bladder to be over distended.

VII. Do not detrain the patient to one position.

VIII. As sure to remove the chloroform at soon as the Child is born.
IX To use the pure 

It is now the general custom to give chloroform to at a much earlier period of the labor. Patients themselves who have had it previously will desire it, and be ready asked, will not think it just to enter their pains bearable before they summon their assistants.

There are exceptions to the third rule — viz. where the patient from not being sufficiently asleep, suffer much pain, during the intervals between the uterine contractions, or where the repeated short intakes of chloroform cause them much leaden sleep — in these cases there is no objection.
To maintain the patient during the whole progress of the labor — that is, of course — there are no contraindications.

If anesthesia has been employed for a length of time, the state of the bladder must be noted. If necessary, the catheter employed. We do this for too long; to save the patient pain which might occur during her waking state — and to save her feelings of relieving for it is much to better the ability should be employed whilst the feelings.

Of a few contraindications to the use of chloroform, and the treatment of the lowest symptom occurring during its administration. Should Head
Part 2. Anesthesia in Morbid Parturition

If I have endeavored to prove the value of Chloroform in natural labor, and to urge its use in every case where there is no special contraindication, it behooves me the more earnestly to advocate its use in morbid parturition. But I shall dwell very shortly upon this division. First, because the opponents of anesthesia admit its great value in morbid labor, and especially where manual or instrumental...
instrumental interference is so
suitable, and secondly because
smoothly so great. I have seen
very little of morbid labor—what
especially required it. But I
am not practically acquainted
with the subject, and can
therefore not in a hot tisha
tolate upon it. I shall
merely attempt to help in
describe some of the more
important complications in
which anesthesia is especially
valuable.

In the vicinity of the ot and tooef
where the use of chloroform had
been most ardently imploded formerly—such as
to large bleedings I am afraid.
Formerly the patient's physical
endurance was greatly tested by
but says when they cause of
excessive labor existed. Other
the medical man waited in
monotony length of time to see
what progress the case would
make - or, heroically he had
and depleted - draining the
patient of her potassium with
counting the blood loss by sphygm
but by sphygmo - the production
of a rather deep anaesthetic -
how usually employed - with part
success in both cases - certainly
with great economy of patient
strength. There are some exceptions
however to the favorable action
of chloroform in these cases
of fright - it cannot be
effected the same good results
will be derived in those cases
where the worked condition is
caused by laceration or arrest
...the results of a previous inflammatory process.

The treatment of rigidity of the uterine cervix here by chloroform inhalation is the only way of the treatment of rigidity generally delaying labor. Especially in rapid dilatation of the vagina and turgid perineum: — in the latter habitus state I have seen the most valuable effects result from the use of chloroform.

In those cases, not very infrequent, there is a lot of uterine cervix dilatation because impacted anterior dilatation is doubly valuable — it abolishes the associating suffering of the patient, and by producing relaxation of the muscles enables us the better to remedy it by the necessary manipulation.
between head of child Theloid
In cases of hysterical
women, and especially primipar,
consultation differences, frequently
in many cases at the head
happened over the distended
perineum — here be first the
invaluable aid of chloroform.
Believe it from this distressing
difficulty.

But of it in turning
and other manual obstetric
operations — that chloroform
is an invaluable to the practi-
ditioners. The lumbum is danger-
to the mother. The state of
the uterus in those cases
requiring section of the pelvis
for its delivery — as in a very
great measure diminished by
the great power he have over
The advocate of Chloroform —
Surely it is a matter of regretting that we have it in our power to avert the horrible suffering from pathological conditions necessitating its aid upon the unfortunate sufferers — even supposing it effect nothing more by anaesthesia.

Paroxysmal Convulsions.
The usual treatment of these now is by anaesthesia. But it found itself invaluable in convulsions dependent upon albuminuric, with blood or headache, carbonate of ammonia in the blood (according to Berkh). The beneficial action of these acids in these cases is attributed to some to its power of reducing the saltness.
Halves state or suprapolarity
of the spinal sensory system.
It is probable that interference
in cells—the results of Dr.
Jodk's experiments, upon animals
by producing tetanic motion by
strychnine—and then abolishing
the convulsive action by chloro-
form—would lead us to be-
lieve so.

But by some it is con-
tended the production of sugar
in the food—(since it
appears in the urine) is formed
when chloroform ishaled for
a long time—acts by obviating
or delaying the conversion of
the urine into carbonate of
ammonia. How then to be ac-
tocked for the presence of
sugar in the urine or how
when chloroform is inhaled.
for a long time: upon this point would humbly venture
to put forth two suggestions.
First — the probability that dur-
ing prolonged anesthetic the
function of respiration is in-
complete - left ethane acid
is degraded, and consequently
the sugar secreted by the liver
is not broken off by the lungs
as normally; the sugar there-
fore accumulates in the blood.
The kidneys eliminate it into
the fluid in the urine.
Secondly — the possibility of the
prolonged application of the
ether or chloroform to the
peripheries of the branches
of the pneumogastric innervating
the lungs — acts as a pa-
cular stimulus when there
the impression is conveyed by
The antrectal fibres to the apex of the pneumogastric, where a change is produced (as in W.C. Thursby's experiments with mechanical stimuli) - if thick, the increase of sugar in the economy is produced - either by the change taking place in the lungs - in the heart - in the teeth of the primary stimuli, or the liver secretes sugar more abundantly which getting into the blood is not burnt off - and is eliminated by the kidneys.

Caution and Contraindications regarding the use of Chloroform in Midwifery.

Valvular and structural disease of the heart, the fact of patient having had an attack ofopley should consider to be the chief contraindications to anaesthesia.
Never saw any lingering traces
of death in the cases of labor
in which I have seen chloroform;
should the breathing symptoms
arise the indications are to
1. Remove chloroform
2. Fix recap of air
3. Artificial respiration
4. Exposing upper part of body
to favor evaporation
5. Subcutaneous
6. Never forget to Ten mouth
full tongue forward if
necessary raise the head
Guy to the
most of death by chloroform
I have not tried upon dead
jinnies let etc. We must look
to brain lungs heart. Life exist
on a tripod; each of its three
support must be cared for
It is true it is that the heartfelt sound
of life may, by one intermission of
the rotation, be converted into a
perpetual circle of disordered death.