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On Organic Structure of the Urethra

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many divisions  
the subject.

Strictures of the Uterus, however, like many other diseases, been clasped in various modes by those authors and surgeons who have written on the subject, they all however appear to agree in dividing them into two great primary classes.

I. Transitory strictures & II Permanent or Organic strictures.

The former of these is not to be fully considered in this essay but it may not be out of place just to define the outline of the difference between these two classes, before commencing to describe the latter, the especial subject before us.

Transitory  
strictures

First then Transitory Strictures, the name itself expressing their temporary character, comprises such forms of Stricture as these, a stricture of an Inflammatory nature, arising from Congestion of the mucous membrane of the urethral canal, the result of some degree of irritation or Inflammation a state in which there is no lasting obstruction but merely a temporary swollen condition of the membrane.

Spasmodic  
Stricture

Next that which has been termed, "spasmodic stricture" resulting from spasmodic action of the muscles acting on the Urethra. -

The very existence of such stricture in a form uncomplicated form has been altogether denied by some; they are doubtless rare, but of their occurrence there can not be the least doubt, for though some men perhaps have not met with a case, others, and those of great authority have done so, and claim as much right to be believed. - It is certainly however the fact, spasmodic stricture is by far most frequently met with in complication with some other form of the disease. - A bone of contention is found in this, - To the opinion of what muscles is this stricture due? Solely to the Compressor Urethrae? or also to the Accelerator Urinae, and those involuntary muscular fibres which have been demonstrated closely encircling the whole tube of the Urethra? - but that I should be going too much beyond the bounds to which I have limited myself, the arguments pertaining

To this question should be followed out however as it is, the opinion I myself have formed on this subject may just briefly be stated. -

Cause of Spasm. Str.

The most probable solution of the entire question seems to me to be this - that Spasmodic Stricture may occur to some extent from all these causes, but the form resulting from spasm of the Compressive muscle, of course occurs the most violent and troublesome, stricture, that the spasmodic action of the small involuntary muscular fibres surrounding the urethra do entirely ~~not~~ cause a less degree of stricture, but still it will do so especially when, as is frequently the case, there is already a certain degree of permanent Organic thickening, and this being present, it will doubtless be seen, that, but little irregular contractile action of these small fibres being excited, an impediment may easily be caused to the passage either of the water or an instrument. -

With regard to the part that the Accelerator muscle takes in Spasmodic Stricture, it appears evident that having allowed enough contractile power

to exist in the small fibres just spoken of. -  
 we must accord the same to this muscle, but  
 probably the narrowing caused by its action  
 would not be so defined as other fibres on  
 account of the distance and tissue it has  
 to act thro'. -

I must claim indulgence for this digression  
 on the ground that these forms of Stricture may  
 probably have to be referred to occasionally and  
 therefore it perhaps as well to have devoted  
 these few lines to them - and having done  
 so I at once betake myself to the consideration  
 of that variety of stricture which I have  
 made my especial task in this essay. -

Organic  
 Stricture

Organic or Permanent Stricture, - either state  
 implying the existence of the other, is contracted  
 and narrowing of the urethra, caused by deposit  
 of organic matter in various membranes and  
 surrounding tissues, & usually ~~is~~ a result  
 of either long continued Inflammation or  
 that arising from Surgery. -

under -

The course of its suppurative is as follows -  
 Inflammation of the mucous membrane, arising  
 from various causes, to be presently adverted to,  
 sets up - transudation & effusion within  
 the mucous membrane and sub mucous cellular  
 tissue takes place, necessarily greatly narrowing  
 the urethral canal, indeed may possibly  
 occlude it and even after these congestions  
 does not suffice for this, spasm may step  
 in and finish the work already begun -

This state of things is what we meet with  
 in the aguesical Congestive Stricture, but then  
 if resolution does not presently take place,  
 and a cure becomes effected, ~~but~~ if the inflamma-  
 -tion continues, we shall find that the  
 effusion, changed in its character, consisting  
 of organized lymph having no tendency to  
 be absorbed, becomes deposited around a certain  
 point, this goes on until the urethra is con-  
 -siderably narrowed by this organized material  
 now becoming fibrous and consolidated  
 throughout. If the inflammation is pro-

continuous, a frequent in its recurrence, we  
may find this thickening even extending so  
so partially solidifying the texture of the  
Spongiosum urethrae.

Situation

With regard to the situation at which these  
changes most frequently take place, some  
very careful statistics have been drawn up  
which disprove what was for a long time  
believed, that the urethra was  
generally affected; it seems however that at  
least two thirds of the cases happen at the  
junction of the bulbous with the membranous  
urethra, next in frequency we find that part  
of the urethra within two or two and a half inches  
from the orifice, this is followed by that part  
situated between those just mentioned, and  
in the rest of the urethra very rarely, never indeed  
it is said in the prostatic portion, do we find it.

Number

One word respecting the number of strictures  
wh. may be met with in one urethra, there  
can be not doubt that two or more may  
exist, indeed I have seen notes cases

and unobscured specimens in which it was im-  
possible to be mistaken, and this being the  
case why should they not be found in greater  
quantity? But still I should be inclined  
to doubt the existence of as many as eleven  
as some have to have seen.

Causes.

The causes of Stricture are many and various  
both ~~are~~ the remote and direct varieties, so  
in order to make my account of them as brief  
as possible, having collected them from all the  
sources within my reach, I have endeavored  
to arrange them under three or four heads, con-  
sidering that by so doing I shall both save  
time and yet manage to allude sufficiently  
to each.

Medicinal

causes.

Acq.

In the regard to medicinal causes, we find  
the following to be most worthy of notice,  
The remote in its influence is Acq. - but  
still we know that we may cure Stricture  
before Puberty and supposing old age to come  
on, and then the Urine to be still sound, do  
we find it become diseased in this manner.

2.

and the most liable age is from puberty to  
the prime of life. - Since stricture is improved  
found before puberty, I have been frequently told  
that it never is, but the following case which  
seems unexceptionable gives me ground to deny  
this, though its rarity can not be denied. -  
As nearly as memory goes, so far that I am  
writing, the chief facts of the case are these, a little  
boy aged 6. for some time suffered from unmis-  
-takeable signs of stricture and the passage of  
instruments was very difficult, after being under  
treatment for some time, the child died and  
then was found a close annular stricture at  
the junction of the Bulbous and membranous  
urethra, just behind the stricture too was found  
in the dilated entrance a small calculus, and  
just anterior a small short false passage. -

Climax -

Hot climates have generally been and still  
are thought to predispose to stricture, but whether  
it is not partly thro' the habits of life wh. are  
indulged in might be fairly questioned.  
We all know that very soft warm dry complaints

in such climates is more liable to become complicated than it would be in more moderate temperatures. -

Hereditary  
causes

Again this disease is said to be hereditary, but a certain susceptibility to stricture may descend from father to son; it may be so, but it appears not to be a cause of much weight. -

Diathesis.

To what extent the different diatheses predispose to stricture is undecided - The Rheumatic and gouty diatheses give rise to great irritability of the mucous membranes of the body and and therefore greater liability to super venient of inflammation on the application of any exciting cause. - It has been asserted that Stomach individuals labouring under gonorrhoea are more liable to stricture from the nature of their diathesis, in that it has been noticed that scrofula predisposes to prolonged chronic inf<sup>l</sup>  
"This is true" says Mr. Wade <sup>but</sup> they forget the fact of there being less tendency to effusion, and more especially to the subsequent organization of lymph, in scrofulous than healthy individuals.

habits -

I may just add that certain habits of life claim admission to the class of remote causes, - either those exercising a deleterious influence over the whole body so rendering it weaker and more liable to any inflammatory attack, or those whose influence may be more direct, exciting great local irritability and therefore greater liability to disease, -

Inflaming causes.

Having now briefly reviewed those conditions predisposing to Organic Stricture of Uterus, it is next necessary to turn to those which have ~~not~~ more direct action on its origin - These can only be briefly glanced at, so in accordance with the plan laid down I classify them under these three heads  
a. Inflammation. b. Traumatic causes, & Mel-  
-formation -

Inflammation

This, whether resulting from gonorrhoea or other causes may cause stricture, but it is most certain that the former is far the more frequent, to this we first advert. -

Gonorrhoea

Gonorrhoea does not always end in Stricture, indeed

rarely but when it does, what is the cause? and what is its *modus operandi*? - It may be the fault either of the patient or surgeon, the former may be careless, the latter may neglect from reticence, ~~about~~, the attack of gonorrhoea is badly cured or rather not really cured at all, possibly there may be still a slight discharge left, causing but little inconvenience to the patient, who does not trouble himself in the matter leaving it to the doctor, as he may perhaps take an occasional syringe or so, deluding himself with the idea that he is under treatment. - After a variable time he may fancy that he discovers something wrong about the passage of his urine that he never before noticed - it has a small and queer shaped stream, and irritation may be more frequent - for a time perhaps he thinks slightly of it but on noticing its persistence he may half suspect the truth and on applying for advice he finds that unless appropriate treatment is put in practice he must look forward to an old cure of stricture and its consequences.

Besides this, inflammation arising in various other ways may give rise to this disease and these are now to be brought before us -

The effect of the condition of the urine may excite the requisite inflammation, from its putrid-natured acidity or alkalinity, more especially the latter. or from its being irritating from any other cause, not however very rapidly unless there be some adhesion & alteration, or any hypersensibility of the membrane. -

irritating  
urine &c.

To this may be added the abuse of Trypsin in the treatment of gonorrhoea, under which I ought to have mentioned this. - (The abuse of trypsin I say because of my conviction that their proper management will stop or prevent a great, & by this means removing the probability of the supervention of stricture at all), and any sudden excess retain durescens or remota, with other minor causes, of insufficient importance to be fully treated after our limited space, - Perhaps however I may here call attention to the fact that Organic stricture is frequently the sequel of long-continued spasmodic variety.

traumatic  
causes.

It may perhaps be said that these causes of which I am now about to speak might have been placed under the head we have just left, it seems however that they are advantageous from a class by themselves both from the peculiarity of their nature and their importance with reference to treatment. -

The chief of them are, undoubtedly in the use of the extractor, an instrument dangerous in the hands of the rash and inexperienced, who, while treating for some one of the milder forms, may by their unskilfulness lay the foundation of a permanent organic structure; not only fall, neck, or injury to the perineum, from horse riding, military gaiting especially, and many other ways may speedily give rise to inflammation and then to stricture. The excoriation of a wound in the urethra in the natural manner may lead to contraction of the tube sufficient to be to all intent a stricture and cause all the symptoms. We know what an immense degree of contraction

results from this process in lesions of the external parts, from venous or extensive ulceration for example, and the same may of course take place in the urethra, modified of course according to its situation.

It may give authority on our subject to say that ulcers or other raw surfaces on the sides of the urethra may sometimes adhere so forming obstruction and narrowing, this may be so but it seems to me for practical purposes, and at any rate must be a very rare occurrence.

Malfunctions

This third class, the last and at the same time the least, rarely presents <sup>itself</sup> to our notice, we may consider it briefly under these two divisions Congenital & Acquired

Malfunctions

Congenital

The first division, congenital malfunctions contains merely those cases in which we find a little membranous fold or valve stretching across the urethra especially the lower half they are generally detected at or near the

The mectus mucosus can be easily  
and simply removed with the mere touch  
of a knife or probe

β. Adult.

Under the head of a adult male functions  
we consider those peculiar growths  
from the walls of the urethra, a few examples  
of which are to be seen in most museums. -  
The forms are these - little pedunculated  
masses hanging down or lying along the  
urethra - These are said to be found only  
in the prostatic portion, for that reason it is not  
clear, but at any rate this cannot be wholly  
correct, for I have in my museum a specimen  
in which the growth was for anterior to this.  
Also quite at the anterior part of the urethra  
in canal near the fossa navicularis, excrescences  
similar in nature to those warty growths  
which we see on the glans penis, frequently occur.  
These are easily discovered and their removal  
is neither attended with difficulty or danger.  
The pedunculated growths on the contrary are  
during life exceedingly difficult of diagnosis  
and also of treatment -

classification

At the commencement I noticed the number of classifications made by different authors on this subject. Almost every man seems to make a better one than his predecessors or rather thinks he does; now, it is necessary for me to put the varieties of structure in some form, and therefore without the idea of surpassing others I shall arrange them in the method which seems to me the most advantageous, and give my reasons as I go on for so dividing them.

ridle Structure

This consists of a membranous band of greater or less density passing across the width or stretching partially across in various ways as from above to below or to the sides or from side to side. - There may be either many membranous bands or folds of any thin texture going from one part to another or in cases of old Structure, may present the appearance of being of greater density of a partly nature, and even in some cases of being more or less colorless, perceptible

17.  
seen in the passage of a catheter over this  
situation. —

This supposes that numerous bundle strictures  
which stretch all across the urethra are frequently  
artificially made for it is hard to understand  
how the supervision of strictures in an ordinary  
way could produce such "fœna" as these,  
and this explanation of the supposition that  
there existed at one time a partial annular  
stricture at that point in the canal, and  
that this became profuse by the passage of  
instruments or in some other way and that  
this band stretching across is the result,  
the rest of the stricture being broken down or  
removed, — it seems very probable that this  
explanation is in some cases at least the  
true one. — My choice of the old name  
bundle stricture in preference to one I have  
lately heard a good deal used, is founded  
on this, — the latter term perhaps sufficiently  
implies what is the actual state after cure  
in all patients got ~~off~~ of the tube, the old term

seems to me the most explicit & comprehensive and at any rate has this merit, being known so well to all, and that <sup>all</sup> understand what is meant by it. In giving names to classes of things of course the great aim & object is to find a word that will as nearly as possible convey an idea of the nature of the subjects to be brought under it; the rest of the varieties of structure have such names as these, thereby reducing the necessity of much explanation of each, each name being nearly sufficient. and this is very well seen in the second class which now follows.

Annular Stricture

Annular Stricture is so good a name that it requires very little further description. - It is evident that it signifies a constriction surrounding the urethra at a certain point, either equal all the way round or at any rate existing in some degree all round though it may be stronger at one point, I mean that the disposition of a grain material may possibly not be equal in amount on all sides

yet it exists in some degree throughout; the aperture left may either be in the center or situated more on one side than another. - A separate clasp has been made, by some authors, of these account or structure etc. or indications but it appears to me unnecessary as it is merely a subdivision of the great class. -

Consolidated  
Structure

This term applies to those structures, generally of some large class, wh. have gone on until some consolidation after the open spongy form has taken place, arising from deposition of the organic material in its texture, this of course has a tendency to centric contraction, thereby causing narrowing of the canal, which narrowing from the nature of the deposition will be longer than a more regular structure and not so deep and defined. - This consolidation may take place more on one side of the structure than the other thereby reducing the aperture of the structure which is left, liable to be pressed out of its straight course, and so cause some little difficulty

in two very attempts to introduce a cateter  
or other instrument. - This term like the  
former expresses the nature of the change  
that has taken place. -

Intus  
Structure

Under the head of Traumatic exciting causes  
of organic internal structure I sometimes meet  
with sometimes constructions from accidents  
in the intestine arising from various sources  
The deformity which these produce in external  
parts is sometimes very great and we can  
readily imagine that in a narrow tube like  
the intestine this might be also very extensive  
irregular, and it might cause anything but  
a symmetrical structure as to speak, and would  
leave the course of the intestine much dragged  
and twisted from its natural direction, to these  
the term I use, Intus Structure, seems  
applicable - You may find the intestine much  
altered and twisted in certain old strictures,  
not resulting from accretion, & such an  
extent, that here also the term would  
seem the fittest to be applied,

From some other causes too we may probably meet with strictures which would be best properly be placed under this head. -

These four are the only divisions, founded on the anatomical anatomy of the stricture, that I shall make and it seems probable that nearly every stricture we may chance to meet with will find a place under one of these heads, ~~so~~ though it may ~~probably~~ be not quite a typical form yet its character will certainly approach near enough to render fit its being placed under one of these four heads. -

This arrangement is based on the anatomical character of strictures, but other things are frequently required to be applied which are founded on the peculiar pathological symptoms shown by certain varieties of this disease, and these must be highly noticed before going into the symptoms and treatment.

They are not many but yet sufficient for taking in all the prominent symptoms we may notice. -

Simple Stricture

Many strictures present nothing particular unusual and give rise no symptoms except such as increase irritability of the canal and stricture, or tendency to haemorrhage, in fact no symptoms beyond the usual difficulties in micturition and passage of the catheter &c. These are what are called Simple Strictures.

Irritable Stricture

But we sometimes meet with cases which go much beyond this, in which the mere act of micturition causes a distressing degree of uneasiness, and the least touch of a catheter or anything like unusual interference of any kind sets up an unusual amount of irritation causing great pain and spasms, these cases are so frequent and insupportable as to demand a name and a clap for themselves and therefore they have the appellation of Irritable Strictures; these cause an exceeding degree of trouble both to the patient and to the surgeon in attendance, who has his patience and repose from him greatly concerned.

Resilient  
Structure

This, the wet clap is characterized by such great resilience and elasticity of the effused material that any attempt at dilatation, even by the most simple method, is absolutely useless; no sooner is the treatment the least relaxed than all the good which has been effected is done away, and the state of affairs is the same as before any remedial measures were first adopted, and more, as time advances they grow and soon gradually contracting like other forms, so that more serious modes of treatment are imperatively called for -

Both these last varieties are evidently the most troublesome, the former because the surgeon is almost prevented from ordinary treatment by the intense irritation and forcible excrement shown on the least use of the catheter, the latter because, dilate as much as he will, he is sure to find his labour in vain and have to recommence his treatment.

Before leaving this part of the subject it may be well to notice just one other class

Urethral  
Stricture.

which Mr. Leake mentions in his book on this subject, and I cannot do better than transcribe what he says -

"Urethral strictures constitute a large proportion of the cases we meet with in practice, they generally depend on one erroneous idea of the patient suggested by some irritation in the urinary organs, or debility in the expulsive power of the bladder, and we can agree with the unskilful rap of the surgeon who attributes the pain and difficulty resulting from his awkward use of instruments to contraction of the passage, or through the culpable delusion of capacious quacks whose appropriate field is the remedy of diseases which have no real existence, in such cases good effects are attributed to the various modes of treatment, which if the stricture were real would prove useless, impracticable, or injurious." -

The next point that presents itself is the consideration of a question which has given rise to a great deal of argument and controversy. -

impermeable  
Stricture. The question is this. Is there such a state of  
things as an impermeable stricture?

In considering this we must find what is  
to be understood by the word "impermeable". -  
what does it mean obstruction to the exit of  
the urine from the bladder or the entrance of  
an instrument into the bladder! -

It seems most clear that a stricture  
impermeable to the passage of urine totally,  
could not exist, immediate retention of urine  
with its train of evil symptoms and com-  
plications must infallibly arise. -

In one way alone could such a case be  
found and that is when there exists an  
urethral fistula posterior to the stricture  
and such a case as this is decidedly not in  
point, and therefore we may conclude with  
certainty on the impossibility of a stricture  
impermeable to the passage of urine.

Of course the temporary impermeability  
wh. causes retention is not meant here  
indeed <sup>it</sup> is of the existence sometimes of

total temporary obstruction, that the impos-  
-sibility of "impenetrable strictness" is proved.

The temporary obstruction causing retention  
is not organic closure but just from the  
superposition of inflammation or spasms.

How as to strictness & structure compared  
-able to a particular way even to meet with; that  
that I would answer that it depends in  
whose hands the instrument is. - Many  
more would scribble to produce a collection  
where others would find the greatest difficulties  
could so it is - a certain number might be  
selected whose skill in instrument-passing  
far exceeded that of their fellows, & even from  
some of those selected, few might excel more  
than the rest - it is the case throughout  
the profession and people will not see  
this very simple thing or more probably  
will not compare their own inability, and  
therefore they set up a good "impenetrable  
strictness" and are prepared to weep & wail  
over with all those who will not fall down & worship

To briefly sum up what I have said on this subject - certain impensable strictures does not exist - but at the same time strictures do exist which are impensable / impossible (in the better word) to some men for the reasons above stated - yet there are in those men whose licenses in o'timents would pass, though perhaps with more or less difficulty. -

Symptoms

With regard to the symptoms caused by organic strictures - let first the local symptoms are pretty clear and concise being, as they are, due to an oblique judgment - then first it comes on or rather when it is first noticed, and that is rather a variable period depending on the habits of the canal, there is necessarily for frequent micturition obliging the patient to make water in the night, very little water being perhaps passed, and that proceeding in a peculiar seem like mode or a sort of double stream at any rate the stream will be altered in some way or other - want of power to completely re-erect all the urine

is renewed by some water passing or dripping after the action is apparently finished - this is due to the ureters not being able to contract completely & closely over the inflamed tissue - The commencement of the act of micturition is also found a difficult task as expiratory straining and other resolutions before the action comes on at all.

All this is but mild at first but as time and the disease goes on, these several symptoms get worse and worse - the frequency of micturition much increases owing to the bladder becoming more and more thickened and irritable, and when performed the act of micturition is still more difficult the urine being passed by drops - Probably some day in addition to this the patient suddenly becomes alive to the impossibility of passing any water whatever, some little except on exposure to cold gives rise to some degree of inflammation and complete retention is the result -

I shall not enter into the different symptoms and complications which may arise after the suppression of this condition retention of urine - my object being in this essay to treat rather of organic stricture in relation to its commencement and retention and its treatment would more properly be considered with the subject of Incurable Urinary Stricture.

The manner in which organic stricture <sup>the operation</sup> affects, varies considerably, in the majority of cases we find that the greater the amount of constriction and longer its duration, the greater will be the constitutional irritation - this however does not always follow some strictures for instance the Stricture variety will be found to cause much more disturbance than others though they are of longer duration and are much tighter.

We find symptoms of great nervous irritation with the pain produced by making

water - we find also signs sometimes arise though rarely to any great extent unless there has been much unusual or instrumental interference. - Besides, when the obstruction to the passage of the urine is very great we can not expect the urinary system to be unaffected - and on examination of several specimens we meet with various changes, the bladder contracted and thickened in almost all cases the ureters dilated and I have examined cases in which in addition to this the ureters and the pelvis of the kidneys have become unusually dilated. - This being the case the functions of the system can certainly not go on with their accustomed regularity, various changes and other states ensue, which independently of the effect of the stricture itself would suffice to lead to the most serious and fatal consequences. -

Treatment.

We now take upon the consideration of the  
 the last and various portion of our subject, and  
 that part which has given rise to so much  
 quarrelling and disagreement, viz. the Treatment  
 of Urthral Stricture. — There are different  
 modes and degrees of it as we shall see as  
 we go on, each of which I shall briefly describe  
 and then make a few remarks on its advisability  
 in general and point out, <sup>to</sup> what cases each is  
 applicable. — On account of the narrow  
 limits we have, it will be best to start without  
 further preamble, and therefore I at once begin  
 the consideration of

Delegation

Treatment by Delegation —

which is the mildest and at the same time  
 the most easy, though ~~the~~ tedious, in its performance.  
 In the great majority of cases it is successful  
 though slow in its operation but though some-  
 -times an immense deal of patience is required  
 from the surgeon yet he will frequently be  
 very gratified by finding he has cured his  
 patient without having to resort to the

employment of any more serious operation  
of course in cases of failure he can always  
employ other treatment according to the nature  
of the case, on this account then it should  
always be first proceeding, trial, except  
in some few cases where it is obvious & unpro-  
-bable

The term itself is liable to be considered rather  
unfit to describe what is meant by it, not  
unfit in that it is not sufficiently inclusive  
but on the contrary in that it is too com-  
-prehensive for in what method of treatment  
do we not make use of some abating power  
as an auxiliary? however we must take  
it as we find it and remember to restrict  
its application to those modes of treatment  
in which abatement is the primary power  
for to these alone is it peculiarly applied.

I say "those modes" because abatement  
is not limited to one single kind of operation  
for there are various methods and various  
degrees of rapidity of its performance,

in which sometimes, different instruments have to be used such as bougies, catheters, sounds and especially constricted dilators, some men preferring one kind some another, very probably because they have gained a certain amount of skill with one, themselves, and for that reason they recommend it to others. -

When first we undertake to cure a stricture we examine the patient leaves as much as possible of his history, find the stricture mark its situation and judge of what kind and variety it is - in the use of the catheter in getting part of this information it may perhaps be as well to introduce as soon as full sized catheter as possible thereby less irritation and less risk of making a false passage & hook is the point in some dilations become a other - This is scarcely necessary now a days & say much of the passage after the catheter and the modes of doing it - people have their own notions I am an favorite method those which the times are so

for my own part - in either the erect or recumbent position I would introduce the catheter leaving its handle to the left of the urethra it would as it goes in, keeping the point well against the upper wall of the urethra then by gradually depressing the handle towards the entrance between the thighs the point will enter the bladder - but excision in catarrhism can never be too frequently repeated and insisted on, and that is what must be done with the utmost care and gentleness and therefore with safety, recollecting that the least attention to this point may be followed by the occurrence of false passage, which, even if no ulterior bad consequences ensue, looks awfully bad well for the operator's skill -

a. gradual dilatation

The usual mode of procedure in this treatment is as follows, a catheter, bougie, or solid sound, according to the taste of the surgeon, probably however in most cases a good silver catheter is the best as then we can have proof of having reached the bladder.

- is passed into the bladder, the size depending on the amount of constriction, and either ~~soon~~ soon withdrawn or left in for a short period after which the patient is left for a couple of days or so, and the same thing then repeated this time probably the instrument passed will pass easily and no further recourse to cauterize a size larger and so on until the stricture is cured, but even then there is always a tendency to return and therefore for a long period, a full sized instrument should be occasionally passed to ensure the passage being perfectly patent and prevent any unlooked for recurrence of the disease.

In doing this however it is <sup>well</sup> to watch very carefully the amount of irritation caused by introducing the first instrument and afterwards to observe whether any increase has been effected in the size of the stream and also if it appears to be an atropine any inflammation or spasm as it frequently does, supposing this last to be the case

It will be prudent to give a second application of the instrument for three or four days or so until all such symptoms have subsided, with careful watching in this way we shall frequently find the stricture yielded to our endeavours and ~~then~~ become cured, but then we must never forget to insist on the occasional use of instruments for the purpose before mentioned.

Some amount of medical treatment may be required, just to regulate the secretions and to keep up the tone if necessary - occasionally we find a little irritability of the urethra or mild cystitis set up, which yielding to the administration of a little liquor potassae, & bicarb and the use or some such medicines -

But such simplicity in cases is by no means always met with, in some cases great perseverance and patience will have to be used before ever an attempt to reach the bladder at all with the catheter, however

small and fine an instrument we use but  
 yet we must persevere and be steadily  
 and very generally we shall in time be rewarded  
 by success - We must never allow annoyance  
 to bother us such that when we find a stricture  
 unpracticable and decay leave it till another  
 remembering that from various causes a stricture  
 may be more inoperable and decay than we  
 think - One objection we find arises from reports  
 that if anything has happened to disturb our  
 own temper, it is best to cease attempting to  
 pass a catheter to such a stricture till the return  
 of our usual serenity.

B. V. Vital  
 dilatation

In stricture in which there was much difficulty  
 in passage of the instrument the following <sup>method</sup> follows  
 the following method of treatment - We would  
 pass the point of a small catheter down to  
 the surface of the stricture, and then fix  
 it then by means of tapes and other machinery  
 from this method we find that the obstruction  
 may be removed in a few hours or at any rate  
 decay without difficulty or incision.

This should be watched and as we find the  
 tapes become at all loose from the pulling of  
 the stricture and consequent retention of  
 the catheter a little way, they should be  
 tightened but the stricture may have the  
 full benefit of the force applied. the rate of  
 dilatation in this encounter will of course  
 vary with the density of the stricture & -  
 When being had the opportunity of seeing  
 this treatment applied I can say but little  
 about it - I can conclude that the mode of its  
 action is more from the absorption than it  
 sets up to be any actual dilating power  
 exerted, for we know that dilatation  
 generally acts in both these ways, but more  
 is dilating than causing absorption; in this  
 however I apprehend that the case is reversed  
 and that the cure when effected is chiefly  
 due to the absorbent action set up. -

v. Continuous  
 Dilatation

The plan of introducing catheters and  
 leaving them in the stricture is not to be  
 spoken of - which I once "Continuous dilatation"

The instrument being introduced, the tapes are bound to the head of the catheter by the needles and the four ends just fastened to a ring going over the penis (a bone one is the best). Then the two upper tapes are fastened to a band round the waist the lower ones passed round and behind the thigh and brought up and fastened to the belt or side of the same belly band. I mention this because of letters I have been some letters advising strapping and other things for this purpose but I have never seen anything so good this mode of doing it and have used it in a great many instances.

For this treatment a gum elastic catheter would seem to be the best, because we can by using the stilet have all the advantages we want in its passage, and then on the withdrawal of the stilet the catheter, being flexible is but little in convenience, on account of its floccidity. At the same time it is far less liable to be irritating to the coats of bladder.

I would change the catheter daily, or at any  
 rate take it out and wash it, or pass another,  
 and may be for ten or twenty & require a bag  
 each time but of course, the precaution of introducing  
 a clean instrument though after some days,  
 should not be neglected. As we frequently  
 find that the continuance of the catheter in  
 the bladder especially if it becomes dirty &  
 will cause a discharge of purulent material  
 to some extent, there is generally a little but  
 if it becomes at all excessive, withdrawal of  
 the instrument and rest will soon restore the  
 proper state of things. - If there is much  
 constitutional irritation from the presence  
 of the instrument a little opium & might  
 probably be serviceable and if not we must  
 take out the catheter - I shall, watching well  
 be required to detect as early as possible the least  
 thing wrong that remedial measures may be  
 at once applied - The duration of the treatment  
 varies considerably, in different circumstances  
 in some uncomplicated cases I have seen

it successful in some 6 or 7 days of electrical  
treatment.

S. Rapid  
dilatation

Speaking of duration leads me to mention  
another variety called rapid dilatation a treat-  
ment sometimes performed, consisting in dilating  
the stricture in a very few hours or days by the  
use of conical sounds, tapered instruments  
which therefore run up two or three days in  
succession - by introducing these one after another  
there is no doubt that a stricture can be  
very rapidly dilated but the safety as an operation  
by any means seems so clear, in order that  
there might be a chance of all un complicated  
cases we must certainly find a very unob-  
scure & unconfined stricture. -

But I rather imagine that these conical steel  
sounds would very likely prove of an immense  
deal of service if only they were used in the  
operation of ordinary dilatation the advantages  
generally seem to be threefold - 1<sup>st</sup> that  
in many cases it is much easier to introduce  
a sound than a catheter

2<sup>nd</sup> That as its use is renewed after it has been used in the ureters as long as seemed fit to the surgeon there would be much less of local excruciating pain which we sometimes find the patient feel to.

3<sup>rd</sup> In giving these two points we lose none of the dilating power of the ordinary catheter on the contrary we are giving we have great extra dilating power of it. We must take care not to use too much at one time & so on.

Special  
Catheters.

We must next allude to some of the special Instruments that are employed in dilatation among others we have those in use at Mr Holt's after Westminster Hospital and Mr Ho- Wally after the Royal Free, & send a brief notice of these will suffice for our purposes.

First to speak of Mr Holt's dilator and as it is an excruciating which I must say a good deal present on account of the mode ~~in~~ which he is at present using <sup>it</sup> I must give a full description of it, since this has not been done in his own words taken from a pamphlet he published when he brought out his instrument

It consists of an upper and lower grooved blade welded together at the point, and the other ends fixed in handles, thro' its center or between the blades a directing rod is fixed on which the dilator tubes pass in order to secure them from slipping beneath the blades of dilator. A screw is fixed in front of the handle which regulates the size to which the instrument should be increased. - The tubes are of silver and range from one to twelve, conical at their extremities for the more gradual dilatation of the stricture. The dilator being once introduced, the screw should be partly removed ascending to the size of tube its distance should be used the tube is then passed on the directing rod the dilator being held very firm in the left hand but every piece should be removed.

The tube, having been gently passed to the extremity of the dilator, is to be permitted to remain as until very annoying has subsided when it may be withdrawn and of a larger or longer one introduced. -

This is Mr. Holt's own description of his instrument as far as regards its application as a gradual dilator but latterly he has used it for another mode of operating, that of forcible rupture and dilatation of the stricture, in the case of a thin of which it will be presently necessary to advert -

Let us examine however the advantages offered in making use of this instrument as a gradual dilator - In the treatment of those exceedingly irritable and painful strictures that we sometimes meet with, it certainly has one thing to strongly recommend its use, and that is, that having once passed the grooved blades, we can go on dilating with the tubes as long as seems fit without having to subject increased irritation by passing and re-passing instruments over the spot - Next the gradual tapering form after the joined blades is an advantage similar to one of those we should find in the employment of conical soundes, concerning the use of which I spoke so strongly but a little while ago -

Again, we can not but approve after extreme  
 anxiety we have in regulating the amount of  
 dilating power to be employed, though perhaps  
 this will not much surpass the use of ordinary  
 instruments in skilful hands

These are the advantages which its advocates  
 so strongly insist on, and having given them  
 I am allowed to express my own opinion  
 as to their respective value - As regards the  
 first of them I fully coincide with all that  
 has been said - but as to the others two, though  
 I do not deny the good impetus, yet I  
 would submit that they seem to me  
 to exist in the use of more simple instruments  
 for instance, the advantage after gradual  
 tapering of the instrument has no superiority  
 to the coiled steel sound or catheter - and  
 with this latter instrument or the ordinary catheter  
 we can by the exercise of proper care and  
 judgment, quite as efficiently regulate the  
 degree of dilatation to be effected. - In favour  
 of this instrument, I shall allude to 3 and 4 p.

Next to admit briefly to a set of instruments  
 in use and used by Mr. T. Watley of the  
 Royal Free Hospital, the principal features of wh.  
 are as follows. A very fine catheter is introduced  
 thro' the stricture and kept there as a guide  
 - a catheter is used in preference to a solid instrument  
 in order to be the more certain of being fixed in the  
 bladder - next over this primary catheter or "internal  
 guide" a set of exactly fitting sliding tubes are  
 made to run, these are of graduated size, in order  
 that we may be able to use a larger one as dilata-  
 -tion proceeds - they are both of metal or elastic  
 gum material, the latter being the best for being  
 in the urethra, so preventing coarctations dilatation;  
 when these sliding tubes have been introduced  
 the primary catheter may be withdrawn -

We have noticed two advantages of a guide in  
 this instrument for respecting the introduction of  
 these tubes but we lose that advantage the  
 value of Holt's dilator depends, the passing of  
 more tubes than one without increasing any irrita-  
 -tion may be caused -

Got in certain instances I imagine the services  
of this instrument might be advantageously  
used - This more completely than the former, and  
I have not fully described it, but sufficiently perhaps  
to illustrate in what its good points are.

Value of the  
different modes.

To finish this part of the subject I will briefly  
recapitulate the different modes of delatation  
and endeavor to assign to each its proper value  
in such cases as it may be fitted for.

Voluntary gradual delatation is doubtless the  
most simple, and at the same time in the majority  
of cases the most effective of all - Though the  
most tedious, there ~~is~~ <sup>is</sup> counterbalance that  
objection, that during its application there is little  
or no confinement necessary, and in some cases  
is absence from work, which in themselves are  
things greatly to be recommended especially with  
regard to some of the poorer class of our patients,  
it may not succeed in every case though usually  
does, if it always did we should not need to  
consider any further or more severe treatment  
but from its nature and simplicity it certainly

should have a fair trial in all such cases in which it seems at all likely to be followed by success and in which circumstances advise its employment.

In such cases reservation of the course then is an class of strictures which is only if ever benefitable by it. I speak of "resistant strictures" for these we must <sup>seek</sup> treatment elsewhere; and the second occurs in cases where the station in life or a vocation often patient would permit of some degree of confinement or in which the symptoms advise that a cure should be attempted more quickly we may see fit to employ continuous or rapid dilatation. - But in other simple cases we shall usually find the treatment by occasional dilatation suffice, and if failure should result we can then have recourse to other modes. -

Continuous dilatation is, I am persuaded, a very efficient mode of treatment when carried out in the manner here for mentioned, and with those precautions relative to the instruments used ~~that~~ recommended, & with proper watching of the effects, both constitutional and local, induced by it. -

It is as we have seen, fitted to be employed in the treatment of the more simple form of stricture and those in which irritability is not great, in highly irritable <sup>cases</sup> the employment is of course ~~probable~~ and dilatation generally, ~~will~~ not suffice for resilient strictures. Its rapidity acts well in its favor, and its safety is also very marked, certainly it occasionally gives rise to some unpleasant symptoms, as rigors &c. and on this account we know it must be discontinued. But in proper cases, with careful watching, I have seen the greatest benefit result from its employment in several instances which I could bring forward.

With regard to rapid dilatation I do not imagine this to be so advisable a method of treatment as the others it seems to me that the likelihood of complications resulting from its is very great and that therefore slower dilatation is to be preferred to it.

With regard to vital dilatation of Dupuytren I can from my experience say no more than I have already done previously.

Use of  
Instruments

A few words with regard to the instruments used in these forms of dilatation, such as catheters sounds and special instruments. — In the majority of cases I imagine that the silver catheter is the most preferable, with it we have a degree of certainty of our movements superior to that in the use of the gum elastic catheter, with the latter we have a less amount of guiding power it may turn and twist about without our having any idea of it, and if a very fine instrument may turn back on itself, misleading us greatly.

Doubtless with the silver instrument more skill is required and by hands unskilled in manipulating much mischief might be done, in such things the elastic catheter would be best.

In some cases the gum elastic instrument may far surpass the other, as for instance, in certain very tortuous strictures, where it may be impossible to find our way with the latter but the former will by its flexibility and power of "finding its own way" assist us greatly. — I recognize also the great value of the flexible catheter

in the practice of continuous dilatation, not so much in the mere passage of the instrument, as in its retention in the bladder, it being less liable to irritate the mucous membrane of the bladder & cause vesical inflammation, - In other cases than these I would prefer the silver catheter perhaps of that conical shape before highly spoken of, - the same shape as that of the instruments recommended by some for rapidly dilating strictures. -

As to the special instruments, I have already mentioned the chief advantages of rock - their utility in some cases is obviously likely to be great, they doubtless lessen the chance of accident by persons not particularly expert - but yet it is a question whether they surpass the use of the ordinary catheter or sound in skilful hands, they do not seem to us to do

But however for those who do not possess thorough skill they may be useful; and they certainly promise to save all much trouble in cases where success is not usual at one sitting

"Possible  
rupture"

The new style of treatment for which Mr. Holtz  
employs his instrument, is to succeed and possibly  
rupture the stricture by passing rapidly down  
between the blades of his dilator, already introduced  
into the stricture, a large sized tube, which leaves  
no alternative to the stricture but it must give  
way in some point, most probably the weakest  
so being totally different to ordinary dilatation  
and the after gradual absorption caused by it. -

The cure after the operation requires the kept  
patient & the introduction of catheters lest  
of any excess the stricture should occur, but  
this is only required for some times. -

This at first sight appears a very bold and  
at times some times dangerous mode of treatment  
but is astonishing to observe what freedom from  
unpleasant or remote bad consequences there is  
after this operation. - Mr. Holtz in a book on  
the subject gives us real of cases to prove  
this and I myself have seen the treatment  
pursued in several instances and in but  
one case did I observe any unfavorable symptoms

and they were but transient and soon passed off  
 This was in a man who had suffered from Organic  
 Stricture for years, he came into our hospital for the  
 treatment of some other affection, and after some time  
 was put under treatment for his stricture, Halls forcible  
 catheters employed, under Chloroform, in the  
 usual <sup>way</sup>, and after, a large catheter, was easily passed  
 The next morning found him in bed ease, having  
 had no sleep, some rigors, there was pain and fever  
 wh. naturally caused a little anxiety for him,  
 however with care and appropriate treatment  
 these symptoms soon passed off and he recovered  
 perfectly cured. - Every other case I have seen  
 on the other hand, has done remarkably well,  
 not being at all unpropitious, after the least course  
 quence has shown itself and the patients have  
 recovered in very short time; -

From what I have seen of this treatment  
 I am greatly disposed to think most highly  
 of it: it appears to me to combine rapidly  
 & incessantly from danger (except in this one  
 case which I have referred to) with the greatest

success, and no doubt merits trial in cases fairly suited for it. Of course it is useless to attempt it when the opportunity is & follows a certain sign for the disease itself understood by the tubes & of the size of a number three or four and again certain states of constitution might preclude it use. — In all probability it will be a treatment greatly used in times to come already it is much so and is gaining ground with great rapidity —

Caustics

The next mode of treatment to be considered is one which seems by no means so favorable as that we have just left, I speak after treatment by Caustics. It seems a plan pursued some time ago, that after warts had fallen into disease, and then having again been removed it of course found some few to back it and now but very few practice it but it is noticeable that those few who do, adhere to it wonderfully, deterring it for above any other plan. —

The method is this, a small piece of some  
 eschrotic, Argentum Nitratum, or Potassa Ferrea, is fastened  
 to the end of a bougie or special instrument  
 constructed for the purpose, this is then passed  
 down to the stricture, its distance from the orifice  
 being known perhaps by feel, and when there  
 it is prepared giving an obstruction for two or three  
 minutes for the caustic to act, it is then withdrawn  
 and the same method pursued on a future  
 occasion. There are also sorts of instruments  
 constructed for bougies and their places and some  
 very ingenious ones too, but with all their ingenuity  
 they can not make away with some very great  
 difficulties and dangers that may arise -  
 We can scarcely estimate the harm that a bougie  
 armed with such a substance might not create  
 if by chance entrance was effected with a false  
 passage - and even not supposing such a  
 case as this, if the armed bougie is forced into  
 - the case even we limit the inflammation which  
 may be set up? we are told that by proper management  
 and managing this may be done but that is doubtful

cannot deny what people will, they can not present it as any thing but a dangerous method, —

Though all this is doubtless true of this treatment we can not deny that cases are treated and treated successfully too by it, we all read of them of course in the works of those who advocate this plan, and most of us may have seen a case or two with favorable result, I could for my own part relate a couple of cases of success which I had the opportunity of watching. — It must therefore be going to refer to deny any good result to this as some would do but that I would for me instance advocate that such a plan should be followed, certainly not; with a knowledge of the dangers probable to result, we could not possibly be justified in doing so, especially when we have other more simple, less dangerous, and more sure methods within our reach.

The object of this treatment is, besides the destruction of the structure of cartilage etc. to diminish the irritability and spasm in some degree and this latter effect may be secured

times be of service - but these objects we know may be attained by the use of the ordinary calculus in a skilful hand, then why should we have recourse to a treatment so dangerous and whose powers we cannot always limit, when by the adoption of another, equally successful, we gain at once its simplicity, and perfect control over its actions? -

Cutting  
Operations

We now arrive at the last great mode of treating Stricture, by division of its texture into a cutting instrument - Such operations as these, we should not think of resorting to, in any case, unless it was found that treatment by some form of dilatation could afford either no relief or permanent benefit. - In such a case we must turn to something else to answer our purpose and if, as is most probable, we refuse the use of caustic or find it does not answer, our only resource is in a cutting operation - Now these cutting operations are of two great classes, one in which all the incisions are

made within the substance the other cutting  
from the external surface down to the middle  
which is generally called Internal section -  
Place of bone must be considered in tubes  
but first the

Internal  
Section

Operation of Internal Section -

This though originally invented by an English  
man has for some years been almost exclusively  
practised by the French surgeons, who have naturally  
improved highly the instruments of performance  
Latterly however, it has been practised in  
Britain and it is gradually coming more  
& more into use among us at the present  
time, and our own countrymen have in their  
turn improved it. The principle of the  
operation is this, An instrument containing  
a hidden blade capable of being protruded  
and withdrawn at pleasure is passed down  
to or thro' the stricture, the blade then gradually  
slides & runs from its hiding place and  
cut thro' the obstruction - This is done in  
two instances in one the instrument passes

Thus the stricture and then the blade exposed  
 and in its withdrawal divides the stricture; in  
 the other the instrument is passed to the stricture  
 and then the blade protruded and division of  
 the obstruction made.

A variety of instruments or modifications  
 of instrument have been invented for the practice  
 of each of these, too many to be collected and  
 separately described; I shall therefore content  
 myself with one or two of each those which either are  
 most used or seem the fittest for my purpose.

There are two methods of performing this operation  
 depending whether the instrument is passed down "to  
 or through" the stricture, ~~the~~ one the incision is made  
 from before backwards and the other from behind  
 forwards, - That is the reason we should need  
 these two operations, as it is evident that the  
 incision from behind forwards is the safest, <sup>of the two</sup> we  
 then know our exact situation and also the length  
 & of the obstruction, while in the other operation  
 we can not judge with such accuracy with respect  
 to these points, so increasing the possibility of accidents

What need of the latter at all times? In this case, the stricture will very frequently not persist after passage of the urethrotome, we cannot be left then a No 3 or 4 instrument, in these cases we must find some other treatment and this has been done in the operation from the per backwards.

urine from  
line forward.

To speak first of division from the line forward - I have already explained the principle after operation and how that its performance is attended with less risk than the other, yet it is of no use unless unattended with danger, the skill of the surgeon can only remove that entirely.

The best instrument for this purpose, is allowed by most men to be that invented by a Dr. Liviale of Paris, it is a long straight and very narrow instrument ending in a small bulb, which bulb answers a double purpose, it both contains, and conceals the knife and it helps us materially in forming a diagnosis as to the length and texture after the obstruction, in this manner, we know the size of the small bulb we feel it enter the stricture

and can feel it to cure the obstruction, by our  
 judgment then, we shall be able to form at any  
 rate some idea of the nature of the obstruction  
 we have to deal with — When this instrument  
 is introduced, we are enabled by a handle at its  
 other extremity to raise the blade, concealed in  
 the bulb, & project and turn we introduce the  
 instrument steadily, the blade being for passing  
 thro' the obstruction — It is nice & desirable  
 by Dr. Civiale, to divide by a long slender incision  
 which may extend a little in front and a little  
 in rear of the obstruction — A catheter should be  
 kept in for the first 24 hours keeping the passage  
 patent, and possibly serving the purpose of  
 arresting any slight hæmorrhage — an instrument  
 also should be passed now and then to prevent  
 recurrence of the obstruction & accretion —

I need scarcely notice any more of these  
 instruments, the difference between them is  
 very slight and only a modification of the  
 stem and this one Civiale's is about the  
 best of them. —

but word however, not exactly in approval, of an instrument used by a French Surgeon a M<sup>r</sup> Bregard and for which, the Academy of France, awarded him a prize of 12,000 francs whether he deserved it or not may be left to the judgement of each person.

It is composed of a pair of blades so made, as to dilate immensely at pleasure by means of a screw fixed in the handle, when these blades are dilated they discover a ~~blade~~ <sup>knife</sup> about half an inch long which then cuts a long and deep wound of two inches or even length and proportionally deep. The reasons he gives for advising the use of such a barbarous looking weapon are, ~~as follows~~ on this, ~~that~~ <sup>that</sup> it is a new texture or living membrane wh. one cannot cut completely by this hollow length and depth. To cure it, this is all very well, but why does he not limit his wound to that texture! the instrument he advocates does all that is required and he may just deal more into the bargain.

All structures thro' wh. this instrument will not pass are at once I believe set down by him as incurable, - he allows the occurrence of



vision from  
the back of

This next mode of operating must  
now for a short while engage our attention -

For it there is doubtless a certain degree  
of hazard, necessitating very great care and skill.  
However, improvements in the instruments used  
are daily coming out and some of them certainly  
very materially lessen any danger -

The instrument usually used consists of a fine  
hollow catheter-like tube which conceals a  
lanceolate stylet, which, by pressure on a handle  
at the head of the instrument, can be forced to  
protrude - This instrument is passed down  
to the stricture, a firm hold being kept on the  
point to render it steady, as by its flexible move-  
ment mischief might easily ensue, the cut  
can then be made, and the instrument withdrawn.

A large sized catheter has to be passed into  
bladder - retained for a while - and afterwards  
removed occasionally - ordinary care and treat-  
ment must of course be shown - There is  
found to be, in this operation, generally very  
little bleeding. -

The instrument that I have lately seen most used and with favorable results is one lately brought out by Mr John Wood, of King College Hospital

In the hands of the inventor I have seen a few remarkably successful cases by this instrument, and as it seems to me to be the best we have for the performance of this operation I will briefly describe it.

This instrument is composed of a fine steel guide of the shape of an ordinary catheter, with regard to the curve; this fine steel wire, for it is about the thickness of a common wire, is introduced thro the stricture - over this passes an accurately fitting cylinder fixed to a handle at one extremity, in the lower part of which there is a small long narrow groove which is to contain a long narrow fine blade, this is so arranged that when required, by pressing a small spring, the blade protrudes, being as soon as the pressure for the spring is removed.

The cylinder is passed over the steel guide, (introduced already into the stricture) down as far as the obstruction, then in the manner described

a nick is made, and of this is sufficient we shall <sup>feel</sup> that the cylinder, which is of the size of a good sized catheter, will easily be made to pass and the obstruction, if not we can turn the cylinder round and in the same manner nick it in another or various points, until the cylinder will pass thro' the stricture. — After treatment as regards catheters &c. will be the same as in other cases —

In the style of instrument just described we could not but see that the great disadvantage lay in our having no guide and working in the dark, as it were, with a dangerous instrument always slight and easily injured textures — now it seems by this instrument I have just described all that danger is done away with, on account of the guide on which all the operation is done, the narrowness and slenderness of the cutting blade also contributes a great deal to the safety of this operation —

We can too, nick the stricture in different points by merely revolving the cylinder round

the guide, scarcely any more trouble or risk than merely cutting in one place. Besides if we divide we lessen the chance of recurrence after stricture. Now it is divided in so many places, in some ~~steps~~ probably, and the canal is restored more in a direction with the natural course of the urethra than if it is merely divided below for instance, containing in some cases we shall by the use of catheters after the operation ~~direct~~ <sup>direct</sup> ~~absorbent~~ <sup>absorbent</sup> enough to remove the mass which has been the obstruction - and the smaller these masses the more rapid the absorption. -

From these remarks I think it can not fail to be apparent that this late invention of W. Wood presents many advantages and tends in a great measure to do away with the dangers and difficulties with which this operation has hitherto been beset. - In practice too, its ~~advantages~~ <sup>advantages</sup> have been proved by its success in several cases, only one or two of which I have, I regret, been so fortunate as to see

The little, however, that I have seen, together with those advantages which must be plain & clear, have certainly ~~been~~ strongly impressed me with the idea that this is the best "Metho-  
-tom" that has yet been invented.

Some men have an objection to this operation in whatever form but my true objection ~~is~~ not the rather called prejudice, when experience has shown that Strictures may be thus dissolved, <sup>even</sup> from before backwards, with great safety, the danger of complication is not by any means great, the ~~work~~ <sup>work</sup> is rarely occurring, indeed there is little or no bleeding during the performance after a separation and very little may be very easily controlled, all this being the case, it seems true that objections to this treatment are rather groundless, and that it is a fit and proper mode to employ in those cases which properly invite its use.

Value of  
cut. Incision

Next what are those cases where we should rather practice employ the treatment of internal incision from before backwards? —

It must be apparent to every one, that this treatment can only, with the least attempt at safety be applied to such strictures as are situated chiefly in the stricture, the spongy portion of the urethra as it is called. - If one were to try this kind of thing further down in the urethra, where it is in the form of a canal, even where it is necessary to do so, the chances are very strong that we should do our patients some serious injury and as a matter of course our reputation also -

We have then a limit to the performance of the operation, let us now see what kind of strictures occurring within this true limit we may operate on?

These seem to be the following two kinds  
 1<sup>st</sup> Is that form of stricture called "residual stricture", which can be dilated in the ordinary method with perfect facility but which on the removal of the dilating power retreat directly.

2ndly Very tight inelastic structure which ev at the  
occurs time production of much irritation & the  
system, especially as a result of the least attempt  
at the passage of an instrument. -

There seem two cases which will need frequently  
warrant the employment of this mode of internal  
incision - and in these a careful and steady  
cautions operator may make the greatest use  
of this operation, rather as an immediate means  
of cure or ~~to~~ cure by a sort of modification  
of it, just relaxing the stricture and afterwards  
calling in dilatation which will then go on more  
easily -

The importance of the subject will per-  
haps prevent it appearing superfluous again  
& urge the extreme necessity of concentration  
we are supposing any kind of internal incision,  
and when we have come to the correction of its  
propensity, another ductile, without thorough skill  
and knowledge, the performance of an operation  
which requires from us, all our ability, care, pa-  
-tience, and gentleness. -

I may perhaps before leaving this part of the subject just allude to the fact that we sometimes meet with partial contractions at or near the sutures resulting from coarctation &c. In these, small instruments have been invented but we shall generally find that with proper care just a touch with a small probe point or slight history will remove the parajose quite effectually. —

I shall possibly have again occasion to refer to the cases fit for this kind of treatment in considering the best kind of cutting operation, that by external incision, which now in due course must be brought before us. —

External  
Incision

This operation by External Incision called also Perineal section and External Anotomy consists of cutting into the urethra and dividing the stricture from the external surface after penetration, and similar to that operation we have just left, there are two methods of performing it — though in accordance with the plan before pursued I shall first give a brief account of these two modes and then

speak of the dangers results and advantages  
 of each, the receipts for having the two operations  
 and concludes by showing examining that cases  
 are fit for the operation of either incision generally  
 and then what are fit for each mode.

The difference between the operations  
 is this, that while in the one case there is a  
 guide paper thro' the ductum to help the  
 operator and render his knowledge of his where-  
 -abouts more certain, in the other there is no  
 such guide and the operator is left to find his  
 own way and steer as clear of dangers as he best can.

Mr. Syer's  
 Operation

1. The operation is wd. wd. wd. as a guide.

This was thought of by Mr. Syer some  
 years back he has also practised it very extensively  
 since and expresses himself highly satisfied with  
 its successful results the mode of its application  
 is as follows -

The staff is passed  
 thro' the stricture, of course as long as instru-  
 -ment as the obstruction will permit, then  
 the staff has a groove directly on its under or concave  
 surface, as the stricture will only

accommodate a small instrument, and as the smaller the instrument is the more difficult is it of management, Mr. Syme has invented one which perfectly, but at the same time as much as possible removes this objection.

This is a full sized staff down as far as the stricture through and below which it is of small dimensions dependent on the ~~size~~ of the obstruction in addition to the being raised of management, it also of the prostatic shoulder forms a sort of guide to the exact detection after obstruction.

The staff having been found introduced the patient is placed in detentary position, and ~~then~~ the surgeon makes an incision with a small straight bistoury in the middle line of the perineum or near the stricture in the median line the incision is about an inch or a half long, & is kept in the median raphe in which septum the dissection is carefully carried down ~~till~~ the staff is reached, which is then received by the forefinger of left hand, and the blade, carefully guarded, is introduced cutting away

uppermost, & the point placed in the groove of  
the staff along which we cut from behind forwards  
thru the stricture - Now the shoulder of  
the staff will pass on thro' the stricture if  
it has been properly divided and obstruction removed

A No 8 catheter is introduced at this time, in  
place of the staff, to be retained 40 hours unless  
and then an instrument to be passed daily -

Ind. = Incision  
about a guide

2<sup>nd</sup> The operation in Dr. Lee's case was guided

This is by no means so easy and  
straight-forward, all the guidance we can  
possibly get is to pass a large catheter down  
as far as the stricture and then endeavor to  
cut down on the apex of this. -

The position after patient and the situation  
and size of the external incision in this case  
as in the former operation, the knife was  
held with its back to the stricture - After this  
comes the tedious and difficult part - an  
endeavour is now made to carefully keep  
in the septum since neither the urethra nor  
the capsule after prostate, etc. may be a sort

of quills, turn into the ureters behind the  
 stricture and cut forward thro' it on the  
 point of the catheter that has been introduced  
 this then will pass on & the bladder can after  
 treatment of stricture &c. is necessary in both  
 operations

It may now seem both methods of operation  
 the most possible to consider what the reason  
 may be of the existence after the two operations  
 this requiring becomes necessary because it has  
 been held by some men that the last operation  
 is never, or rather ought never, to be absolutely  
 necessary, we shall perhaps be able to show that  
 in some few cases it may be both necessary  
 and called for.

Necessity of the  
 two operations

The reason after the necessity of the two  
 operations, or rather of that without a quill  
 operations, depends on that much debated  
 question, the existence of impassible stricture  
 which was fully explained at page 25 & 26 & 27.

The conclusion we there came to was this  
 that actual impassible stricture does  
 not possibly exist but that strictures im-

-passable to catheters in the hands of some men did exist - not that the stricture was unpassable in reality, or would be so to every man, but to those it is so because their skill in manipulation was not sufficiently great. Again, there are a few very infrequent cases mostly of Tortuous strictures arising from intense & long continued inflammation or Accretion in which even the most skilful surgeon will sometimes fail in his attempts to introduce an instrument - In such cases the course of the Urethra must be very greatly altered, narrowed & twisted with probably a good deal of consolidation of the surrounding tissues

Therefore when we do meet with cases in which we find that either we are unable to introduce an instrument after the exercise of a great patient care and attention, and having exhausted all the usual means to instrument passing, such as the warm

late. Clearly from Dr. C. that such symptoms are  
 present as necessitate some immediate  
 treatment, in these cases we can not fail  
 to see, that this operation after external incision  
 often an open sinus - from these too we  
 must see that it is almost a mistake to  
 expect that because of this operation is never  
 indicated. - We can promise the necessity  
 of one of these operations here, that after  
 often requires cutting, since on the subject under  
 the question ought to have been, Is external  
 incision, without a quick run necessary?

Results Dr.

of Int? Incision

As we now comprehend the performance  
 of both these operations and perceive the occas-  
 al necessity of their employment, it will be  
 as well to consider them further together,  
 with relation to the advantages gained, the  
 dangers liable to be incurred and the results to  
 be obtained by the practice of each of them.

The first point to be noticed is the first  
 thing that is done in the operation with a general  
 it is that due and sufficient care should be taken

in the passage of the staff into the bladder, lest we find ourselves trying to make way in some old false passage, these things being by no means rare in cases which call for operative interference of this kind; much evil would obviously result from any mistake on these grounds - A good means of preventing any such grievous error is to bore the staff we use with a hollow through it, that being the case we shall not be fully convinced of its presence in the bladder or the further side of the stricture until we see the passage of a few drops of urine thro' the staff - the aperture in the staff will in no way interfere with its other uses, for it need only be of small calibre and so leave plenty of an isthmus from which to cut the groove -

In both operations two postulates are in common 1<sup>st</sup> To keep the cutting edge of the knife appressed with its back to the rectum and 2<sup>d</sup> To keep the knife and the incisions it makes exactly in the middle

line after the punctum. - Suppose we neglect  
 the first of these precautions we shall find  
 ourselves involved pretty considerably, the  
 knife will just for one instant turned down  
 and with the deep parietal fascia opening  
 as way for the superintention of such dangers  
 as pelvic inflammation and extravasation.

Again suppose we err in carrying out the  
 second requirement; by deviating even a little  
 from the median line we may possibly  
 by some unlucky slip divide some artery  
 or other vessel, or tissue, which may amount  
 for us an immensity of difficulties, hemorrhage &c. - While by keeping strictly to the middle  
 line, where it has been said there is a  
 sort of septum throughout the punctum  
 we totally avoid the risk of any untoward  
 circumstance of any kind, we shall not  
 get much bleeding for after a few superficial  
 incisions of vessels we do not meet with  
 any other least inquietude to give us  
 any trouble, those that we meet with

once he wounded by a slip the knife, one  
 fixed the artery after bulb, given off from  
 the external pudic, running directly towards  
 the middle line, and he could by the internal  
 pudic itself running along side though at  
 a little distance. - Now when we have  
 the staff and its groove to guide us, with proper  
 care we shall be unobscured safe from these  
 dangers but as we can vary when we are  
 operating without this instrument. The danger  
 is unnumbered increase, we have in addition  
 to these, the difficulties of keeping the edge  
 of the blade always up and steady in the median  
 line, to find the ureteric orifice without anything  
 in it to mark its position, besides which it  
 is not steadied for us as it is in the other  
 operation - We shall find the utmost diffi-  
 culty in avoiding these dangers and accomplishing  
 our object, the least false slip causing probably  
 as great deal of hemorrhage which will playe  
 us still more if it does not throw us out  
 altogether. -

In cases where, from long duration, inflammation and abscess have caused much induration of the textures after perineum, very probably being rendered it gritty and reddish it with fistulae, how much more serious would be our task! - the only attempt at a guide we have - the catheter point can not be of much service to us; we find that bleeding is much greater and uncontrollable in this state of parts especially if caused by any uncertain movement of the knife -

I do not mean to say that the difficulty of performing W-Sque's operation of perineal section would not be in such cases greatly increased, it certainly would be but by no means in the same proportion as in the other kind. -

Operative interference in any manner applied has been found to be attended with fatal or at any rate serious results in cases from morbid action the bladder kidneys in fact the urinary system generally has become extensively

depression, and most notably in cases in which  
 the disease was granular degeneration of the  
 kidney or that of Bright, - therefore evidences  
 of such diseases must be carefully looked for  
 before we undertake an operation of lithotomy.

The object of Perineal section according  
 to the practice of its celebrated inventor is,  
 by its performance in time, to prevent the  
 occurrence of this systemic derangement,  
 which, when it has supervened presents  
 doing much beyond employing the most  
 effective palliative means in our power. -

Mr. Sime, then, uses this operation  
 for preventing the complications resulting  
 from prolonged obstruction of the urethra  
 & in this manner has practised it for some  
 time. His book on the subject clearly  
 puts forward his views and contains accounts  
 of cases, and not a few either, from which  
 it is impossible but to believe that the  
 greatest benefit may result from this  
 principle of treatment. -

Very possibly it may appear a severe mode of proceeding in strictures which show no immediate requirement of operative treatment or such so serious as this, and it might be pardoned were any one to doubt its value at first sight before having carefully examined the operation, & its statistics showing its favorable results.

We must not forget however that all such operations may at times prove untoward and occasionally fatal from the occurrence of haemorrhage or pyaemia such evils may result after almost every operation, but from recorded cases of this one we may safely deduce that they are by no means more likely to occur here than elsewhere.

We must not be deterred by a slight suppurative of a gas after the operation for from Mr. Squier's cases we see that this sometimes occurs but he says that in the majority of instances these symptoms soon have their own

would take their departure, rarely excepting any special treatment for them.

I have not had the good fortune to watch cases treated by Mr. Dyer in this manner, this procedure is not wisely, but nevertheless I feel convinced that should good chance present me that opportunity I should <sup>not</sup> feel inclined to change the opinion formed from careful study of reported cases —

The result of operations by external incision in cases where it is performed on account of immediate necessity occasioned by some urgent symptoms, hæmorrhage &c. does not appear particularly favorable — In such cases we can not expect a great number of successful cases from the nature of the symptoms & that do imperatively call for it; and the general condition of the power of the patients system will frequently preclude to a great extent the probability of any brilliant results. —

Cases for  
and L. Suction

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The next thing that comes under our notice  
is when should the operation of external incision  
from the perineum, in either mode, be applied?

Such an operation as this is obviously  
of great importance and risk: and therefore  
it is only after the most careful consideration  
that we should determine on its employment.

We must be guided by the urgency of  
the symptoms, the impracticability of cure  
by any smaller measures, (the latter having had  
a fair trial,) and by the effect it is having, or  
will have on the system, such considerations  
as these will indicate its use. - On the  
other hand we must carefully examine  
the patient's system generally & notice whether  
there be any special circumstances either in  
the system at large, or in the ~~urinary~~ system  
itself which could fairly be taken to indicate  
its employment - these things having been  
carefully and steadily weighed in mind  
by the surgeon, he will proceed with the  
operation in confidence in those cases the necessity

It appears that two cases in which this operation can be applied are two following. one or two of which also allow after employment of Internal Instrument; which is the first of the two in these cases and will presently examine.

1<sup>st</sup> In tight strictures accompanied by intense degree of irritation, especially on the introduction of an instrument or on the passage of the water, including spasm and occasional rigor, making it impossible on account of the great torment to have recourse to dilatation.

2<sup>nd</sup> In narrow elastic resilient strictures, which, the more they are treated simply the more they will get -

3<sup>rd</sup> In very dense old cartilaginous strictures which either will not permit the entrance of a catheter or other instrument in order to make a trial of dilating power or which while allowing this are of so dense and unyielding a material as to resist altogether

but attempts at dilatation and which do not appear to receive sufficient stimulus to cause the absorption.

When speaking of such strictures a little way back I mentioned that when they were simple, as this, they often become complicated and so they do, much inflammation and gelatinous infiltration of the tissues of the perineum &c, and in addition frequently internal fistulae occur; for this state of parts we know of no other treatment which would be at all applicable.

There then are two conditions in which we may be called upon to perform External Incision: and we must now have just a word as to which of the operations should be employed in each case.

On this point however I imagine that very little is called for, after the manner in which I have already spoken of them; and what is necessary may be summed up in these words, that External Incision, internal & glands should never be practised when we can do two other operations.

Intimately known at the present time, so much greater facility for the introduction of instruments is gained by the use of Calne form than cases in which we shall fail are indeed exceedingly rare, when however this does occur supposing every possible thing has been done to prevent it, we may with justice attempt the operation without a quibble.

The question still remains to be answered, and that is in those cases where I have shown that operations either of Internal or External Incision are at least, admissible, which of the two should be employed?

I have noticed the fact that some men have an insuperable objection to internal incision in any form whatever, and I have also endeavored to show that this opinion is in some measure at least groundless, on account of the successful results obtained by this treatment, & the absence of complication, all articles of the superior state of perfection to which the instrument has been brought.

Much as I think of Perineal section I would  
 humbly submit that - those cases brought forward  
 as proper for Internal decision, should be treated  
 by that method thinking that with a requisite  
 amount of care, the best instruments, and  
 good after treatment, that this operation is  
 not so severe, and likely to be as successful  
 in its results as External Perineal Section.

When however these cases are complicated  
 in any way, much inflammation has deep, and  
 various fistulae & then they lose their right  
 to this operation and become the property  
 of External Section. -

Conclusions.

Having now considered the various  
 forms of treatment and their relative  
 merits we come to the general conclusions  
 that for the great majority of cases  
 brought before our notice will be remediable  
 by the most simple treatment we possess,  
 gradual dilatation, conducted carefully and  
 with suitable caustics, possibly those  
 caustical ones spoken of, that when we

feil in this other forms of dilatation will  
from experience, and also the treatment  
of forcible rupture now so much practiced

If then feil or do not appear suitable  
we might have recourse to the caustic treatment  
but I think that most will wholly reject  
this - for though it is impossible to deny its occasional  
success yet it is much more likely to do harm  
than good.

As a "desperate resort" we have operative  
interference, but only as such should it be  
employed for we must remember that do what  
we will we can not wholly divest it of  
danger, and yet when it is fairly indicated, we  
must not shrink from performing it with the  
utmost of our skill and power bearing in mind  
that by our success we may relieve our patient of  
a disease which runs better and under more  
his whole existence which it may ultimately shorten;  
but even if we do not attain this result we may  
at least have the satisfaction of being able to  
materially alleviate his sufferings.

March 31<sup>st</sup> 1862.

Wm. Nash