1839

Hart

Thesis

An Loose Cartilages in the Knee Joint

De Cartilaginibus genu Lapsis

Charles Hart. Cork. 1839.

On Loose Cartilages in the Knee Joint

There are probably few subjects which come within the range of surgical treatment, of more interest to the practitioner, and of greater general importance, than diseases of and accidents to Joints —
The great pain and suffering attendant upon these diseases, and their dangerous results, tend more strongly to shew, than any thing that could be written upon the

subject, the importance of studying and following up each disease, with the greatest minuteness and accuracy.

The knee and the hip joint, these two of most importance in the human frame, and upon which our powers of locomotion principally depend, are perhaps more liable than any others to disease —

Ulceration of the cartilages, the most formidable of the diseases of joints with which surgeons have to contend, more commonly attacks the hip, while the knee is most generally the subject of "white swelling". "Hydrops articuli", inflammation of the synovial membrane, and of those cartilages within the cavity of the joint

Remarks the latter subject, from having had a very interesting case under my own observation, from its commencement to its final cure I propose to write the following thesis —

It is necessary to state however that these cartilages are not met with in the knee Joint alone Morgagni and Mr Benjamin Bell met them in the ankle Joint, Haller in the Joint of the Jaw, they in the elbow Lennec in the shoulder, they have been met with in the articulation between the tibia & fibula, and also between the pisiform and cuneiform bones,

The first case on record of one of these bodies occurring in the

knee Joint, is mentioned by Pare as taking place in 1550, he describes it as a hard white polished body the size of an almond, In 1691 Richter published a case, in which extraction of one of these bodies from the knee Joint was successfully performed In 1726 a Mr Simpson extracted one successfully, Unfortunately however we have instances of this operation terminating unfavourably and even fatally, in the hands of the most experienced surgeons,
In later times, the disease has either become more common, or else has attracted more notice than formerly, for some notice of it is to be found, in most works on Surgery

The following cases are given as illustrating the manner in which these cartilaginous deposits take place in the joints, of the effects they produced, and the results of operations for their removal

Case 1st.

In 1726 Dr Alexander Munro professor of anatomy in the University of Edinbro removed one of these cartilages from the body of a woman who had been hung, It was found within the articulation of the right knee about the size and shape of a small Turkey bean, depending

by a ligament half an inch long from the external side of the tibia. The foreign body when cut, had only a thin external firm plate, being composed within of cells which were full of oil, on separating the femur and tibia the ligament was seen coming out from the external edge of the cartilage covering the external cavity of the tibia, and more internally a part of the cartilage of the tibia, of the same shape as the foreign body was wanting. From the circumstances of the case it was impossible that any information could be obtained as to the symptoms

Case 2nd 4

In 1726 the following case occurred to Dr Lumpton professor of medicine in the university of St Andrews

A countryman near St Andrews had for several months an uneasiness and pain in walking in his left knee, he had received no observable injury, when the pain was most severe he found a hard body under the rotula and on the inside of the leg, though sometimes it appeared at the opposite side, he could get no relief from the pain except by chafing it upwards and making it disappear, the knee was considerably swelled and when he attempted to walk the cartilage made it's appearance

I could then easily catch and hold it between my thumb and finger which made me suppose it was immediately under the skin, and which caused me to pull and a hesitancy to open it, but the man not consenting at the time the operation was performed a few days after the patient being in perpetual pain from its falling down, which always happened whenever he stirred

I made an incision with a scalpel down upon the body, holding it between my finger and thumb but to my surprise when I made my first incision through the skin and cellular substance, I found a strong membranous bag between me and the tumor, which made me sensible, for the first time, where the floating body was

lodged, however I now reckoned the operation of more importance than formerly, I was satisfied nothing else could help my patient, than to continue the incision which I did, and upon entering the bag there was at least four ounces of synovia with the foreign body, which I found much of the shape though larger than a kidney bean, appearing entirely cartilaginous but with much protuberant, but upon drying it shrunk, and shewed a bone covered with cartilage, the patient experienced great pain in cutting through the bag, but became easier on taking the body out, after the operation I earnestly desired him to stay all night in town, which he would not hear of, and after a few hours rest, rode during the night

two miles into the country, under
a hard frost, which raised the
pain in his knee to the greatest
height, and obliged him to send
for me at midnight I applied
anodynes but with little effect
the most pain was on the opposite
side to that on which the incision
had been made, he was then bled
and purged with calomel, but all
to no purpose, he was never free
from horrid cries and complaints
for a month, he could not allow
his leg to be moved, and never slept
but when he took opiates, bladders
of warm water round his leg had
little influence, but water syringed
took more effect, which I made
two men do, for near an hour at a

from a large Clyster syringe, but though this caused the pain and swelling to abate, yet it did not carry it quite off, till I applied a canstic issue to the side of the knee, which being kept running and the syringing continued, it gradually wore off in about a week's time, so that he was quite free from the complaint and swelling, and walked about without any impediment

Case 3rd

The following is a case of successful extraction by Mr Ford of London in 1775, the subject of it was a servant of a person in Bedfordshire aged 18, of an athletic habit of body and sound constitution

states that after a fall, he was immediately seized with a violent pain in his left knee, followed by swelling tension and pain, particularly when he walked quickly.

The disease existed for several months very method of cure, on coming to me (Mr Ford) I found a loose body about the size of a small chestnut in the joint, it changed its position on every movement of the knee and the patient could move it with facility to any part of the joint, he was sensible of great pain in walking when it happened to get under the external condyle of the femur, Concluding that no topical application would be of any utility I proposed an operation

but told the patient of its uncertainty he readily consented, as he said his living depended on the full enjoyment of his health. I then determined to take it out. The swelling was reduced by rest, low diet, and purging, and I then proceeded to operate, the leg was extended, and the foreign body was brought to the outside, being there fixed by the hand of an assistant I made an incision in two inches in length, and afterwards a smaller one on the body itself, and by a discharge of synovia I found I had cut through the capsular ligament the foreign body then escaped through the wound, (it was cartilaginous) the cut was immediately closed, and maintained

in that situation by strips of adhesive plaster and a bandage, he was then bled to Sixteen ounces, which was twice repeated in smaller quantities in the course of a week, his diet was low, his bowels kept open, and the bandage kept wet by saturnine lotion allowent on well until the seventh day, when he complained of pain in the knee, headache, thirst, cough, and wandered, also great restlessness — On examining the knee, the wound was almost united, he was again bled and purged, and the next morning the measles appeared and in due time disappeared, the knee became more easy, and in a few days the wound was healed and in a month after the operation he returned to the country, well —

this extraneous body was cartilaginous throughout its whole substance concave on one side, concave on the other, and skirted round the edges with tender fibres which had much the appearance of hairs

Case 4th.

The following case of successful extirpation occurred in the Westminster Hospital on the 22 August 1837 to Mr Lynn. (Lancet Vol 1. 1837-8. p. 860) Charles Pattison a tall well constitutioned young man 18 years of age by trade an ivory turner was admitted on the 22nd August, with lameness and enlargement of the left knee joint, he remarked that he could feel something slipping about the joint from side to side, upon

examination a loose portion of cartilage, about the size of a large Windsor bean, was found to traverse the joint, taking great latitude from the outer to the inner condyle of the femur reaching from two to three inches above the patella but never going below that bone, when at rest, it was deep seated on the outer side of the joint and scarcely discoverable, but when forced to the inner side of the knee it came very near to the surface and it's shape could be distinctly ascertained, The knee was much enlarged the swelling being very elastic, without much inflammation and having the appearance of infiltration of fluid into the cellular tissue, there was but little

pain or uneasiness whilst the limb was at rest, but when in motion a dull obtuse pain was experienced which increased with the continuance of action, He had never fallen through sudden and acute pain, as is usually the case with those similarly affected, believes that it originated in a blow against the lathe wheel, about four months ago, he did not experience much uneasiness at the time, and had indeed almost forgotten the circumstance, till about six weeks afterwards, when his attention was drawn to it by considerable pain and enlargement, and about the same time, he perceived the moveable body within the joint, On admission

he was put to bed, aperients were
given and sedative lotions were
applied, when the inflammation, aba
ated, the Ung Hyd Fort, with camphor
was used with the view of promoting
absorption, Having continued these
means for four or five weeks
but with little effect, my
colleagues concurring, I resolved upon
extracting the loose body. With
this view, having placed him in
a suitable position, and the
cartilage being forced to the inner
side of the knee, it being there most
superficial, an incision was made
upon it through its whole length
the first incision discovered the white
body glistening underneath, and
upon another touch of the knife

it that out with a force that pro-
jected it some inches from it's seat
the lips of the wound were immediately
pinched together, and secured by
adhesive plaster, a bandage was then
applied with a splint below the knee
to prevent motion, and he was removed
to bed, On visiting him next morning
no pain or inconvenience was com-
plained of, the part was cool and
without any appearance of inflam-
mation, In a few days part of the
dressing was removed, a very trifling
discharge was found to have taken
place, and the wound appeared to
be fast uniting, in a few days
more, the patient left the Hospital

The following are accounts of some
preparations of foreign bodies in

Joints, which are preserved in the museum of the Edinburgh College of Surgeons,

Case 5. Preparation 950 E.C.

Successful extraction by Dr. Allen.

John L—le. aged 19. 12 July 1828

"Floating loose in his Left Knee Joint, is a small cartilaginous tumor of the size of a walnut, somewhat flattened, impedes very much the motions of the knee, creating much pain when it comes into particular situations, for instance between the patella and condyles of the femur, the knee joint is somewhat swelled, General health tolerably good, Reports that about a year ago he first perceived the tumour it was then of less magnitude.

than at present, two operations have been performed to remove the disease at the outer part of the joint which failed, 15th Bol. Jalap Comp statim 16th Mr Allen today by the advice of a consultation, made an incision at the upper and inner side of the knee joint, having previously drawn back the integuments, and pierced the foreign body. he enlarged the opening by means of a probe pointed curved bistoury, and extracted the tumour, the integuments were drawn together, and secured by means of a stitch, adhesive plaister and a bandage were applied, in the evening a purgative enema was administered 17th. slept little, complains of some pain, not very severe, considerable

swelling, some coaring of blood, Pulse
90. calm, tongue clean, bowels open
a little thirst, "Lemonade tbj in die
8. oclock, complains of more pain
in the knee, no constitutional, irri-
tation. "Sinap xx pcum", he also had
calomel, and nauseating doses of
Tartar emetic, 4. A.M. complains
of violent pain in the knee, which
is considerably swelled, much
constitutional disturbance, Pulse
100 full and strong, skin warm
much thirst, he was bled, and
xxx Leeches applied to the knee, bled
again, but only xij ounces could be
obtained, his pulse became less full
and strong. 10 oclock, pain much
easier, still however felt severe on
pressure, knee is swelled, Pulse 96
less full, no headache, some sweating

no shivering, much heat of surface
tongue clean, bowels open, "thrud xx Jem"
The case went on much in the same
way until the 23. the pain in the knee
alternately better and worse, leeches
being frequently applied, and purgatives
administered, with occasional anodynes
On the 23 and 24 there was a distinct
sense of fluctuation, particularly
at the outer part of the knee, and
in the course of the incision, was a
projection about the size of a nut
having a hole in the centre, through
which there was a discharge of
synovia, at the same time the penis
was swelled, and excoriated, there
being two small slaughs, on the
prepuce, and glans, 26th pain in
the knee had almost disappeared

the swelling had diminished, there was
no discharge, and less inflammation
of the penis," to the case went on until
the 25th having anodynes, and solution
of the acetate of Lead applied, when
the pain was again considerable
the protrusion between the edges of the
wound larger, and ulcerating
on the 29th complained of pain in the
region of the sacrum, and a slough
was discovered there, knee impaving
30th knee impaving, complains of
pain in his left side, not increased
on taking a full inspiration, face
less inflamed, penis much improved
August 1. complained of pain of the
left haunch, which was found to be
ulcerating, the knee much less
swelled, so he went on until the 6th

when some increase was made to his chest, 9th. Lungs of the knee has now quite disappeared, a slight ulceration only remaining, from which a considerable discharge takes place, the knee is now of much less size, sloughs of the back has entirely separated, the knee went on improving until the 12th. when he was dismissed cured —

Case 4th. 21. H.

Case of Mr. Wilson

One of these bodies cartilaginous on the outside, and bony in the middle, is seen fastened to the anterior crucial Liga" ment, and from having been some" time loose, is worn into an oval shape a cluster of pieces of bone, or Cartilage is seen adhering above the patella

to the inside of the tendons inserted into that bone, around the cartilaginous articular surface of the femur, is an irregular ridge of projecting bone, any of these breaking off, or becoming detached in any way, would from the friction they must be subject to, soon change to a round or oval shape, the articular cartilages of the patella and femur, are in part to completely removed, the ligaments are also thickened and diseased

Case 7th 21 F.

Dr. Gardner removed nearly one hundred albuminous substances, by an incision into the sheath of the flexor tendons of the middle finger, near to the part where the tendon of the flexor sublimis is perforated by the profundus, —

the disease had been six or seven years in existence, the subject was a man fifty years of age, great relief, and immediate reduction of the swelling, were the immediate effects of the operation —

Case 8th.

The following abstract of a case is taken from Mr Liston's Work on Surgery "But in the last case, where the operation was performed with the utmost care, most violent inflammation supervened, the wound opened, sphacelated secretion flowed out in great quantities profuse escape of unhealthy matter followed, and an exhausting discharge continued for many weeks, at one time the constitutional disturbance was so great, as to endanger life the limb was saved with difficulty

and the joint anchylosed

Case 9th

Extraction of a cartilaginous body from the knee joint by Dr Smith Middlebury Hospital

The cartilage was about the size of a bean an incision was made, and the cartilage extracted, absolute rest enjoined, and cold Lotions applied, two days after the operation, when the wound had nearly healed, inflammation came on for which Leeches were repeatedly applied, but the inflammation increased, terminated in suppuration, and such constitutional irritation ensued, as rendered amputation necessary, which was performed two months after the operation for the removal of the cartilage,

The two next cases are taken from Baron Larrey's "Memoirs of Military Surgery

15

Case 10th.

Jacques Antoine Merlin, twenty four years of age, fusilier, was admitted to the hospital of the imperial guard, for the cure of a sharp pain which he had felt for a long time in the left knee, He was afflicted at the same time with an intermittent fever of an irregular type At the first examination I discovered the existence of a hard movable body playing in the joint of the knee, There could be no doubt it was a cartilaginous concretion, and I should have operated upon it immediately, if the ill health of the patient had not presented an obstacle to it, It was necessary first to attend to the febrile affection, and restore the health of the patient, This was accomplished by suitable remedies, and at the end of twenty days he was in a situation to undergo the operation, in order to secure to the operation

all the success I hoped for from it, I performed it with such precaution, that the incision of the integuments was found to be at a very great distance from the joint. Consequently, after having placed the limb in a state of perfect extension, I pushed the cartilage, from the internal side of the knee, where it then was, to the opposite side. Its passage under the patella was effected without any pain, I then laid hold of this extraneous body with my fingers, and pressing it strongly upwards and outwards I caused it to project under the tendon of the quadriceps muscle, at more than three fingers breadth above the joint, the capsular ligament likewise accompanied it, after having pierced it at this point, I cut through the skin, and part of the muscle which covered it, and afterwards through the

Capsular ligament, and in a moment it was expelled through the opening, without attempting to unite the wound I applied a very simple dressing, taking care to soak the compresses, that were intended to envelop the knee in camphorated wine, no accident of any kind supervened, and the wound was perfectly cicatrized the 25 day, which would have occurred much sooner if the patient, had been in better health The cartilaginous substance extracted was about the size of an almond it was white, wrinkled on one side and having a polished surface on the other, the analysis of it made by M. Vauquelin, proves that the concretion differs in hardly anything from common cartilage, it proves also, that the substance of the cartilage is formed of albumine and ammonia became concrete, since these

two substances act in the same manner as cartilage itself, with the water and with the diluted acids —

Case 11th =

Berens, a grenadier of the imperial guard, was received into the hospital for the cure of a very severe pain, which he had felt in the left knee for several years. Sometimes he was stopped suddenly when walking, by the passage from one side to the other of the knee, of a hard body, which he said he could feel at the joint. In short, on the first examination I found two moveable cartilaginous bodies, each the size of one almond, their mobility was so great, that at the least touch they escaped from the pressure of the finger, and concealed themselves immediately within

the joint. In order to succeed in the extraction of them, I was obliged to hold them with one hand and operate with the other, In consequence of this difficulty this operation was more tedious than the other, but the result was nevertheless the same, the two cartilages being extracted, the lips of the wound were brought together by sticking plaisters, the cicatrix was accomplished by the ninth day and the patient experienced no further obstacle to the motion of the limb —

Case 12th

This case is taken from the books of the Royal Infirmary Edinburgh

Stodart aged 35, was admitted on the 15 July 1836. stated that 20 years ago he sprained his right knee, and was confined

to bed for three weeks, at the end of that time he perceived a body in the joint he remained suffering occasional pain until the November previous to his admission when he was again attacked with pain in the joint, which confined him to bed four or five weeks. at this time a second body was perceived in the same joint — At the time of his admission the joint felt weak, he was unable to work for any length of time, and when he walked far was liable to excessive pain in the joint, above the head of the tibia on the inner side, the bodies were of different sizes, one being more than twice as large as the other, the smaller one was first perceived, in the left knee joint is a body larger than either of those in the right but he never suffered any inconvenience from it

on the 22nd My Lyons pipped the bodies in the right knee at the outer part of the joint with his fingers, and made an incision over them, each was then sinned with a hook, and extracted, the wound was secured by two stitches, and cold applied, 23rd the wound was healed, cold applications continued, 25. stitches cut out, the patient felt well

Case 13th

The following is a case of successful extraction performed in Edinburgh, the patient was about 22 years of age, and of a good constitution.

About a year previous to the cartilage becoming loose in the joint, a pain resembling that of Rheumatism, was felt all over the knee, which became very much swelled, apparently from an

increased secretion of synovia, which was probably more aqueous and less albuminous than in the healthy state, as there was a grating sensation felt on rubbing the patella against the condyles — The constitution was at this time a little disturbed, and the case put on all the appearances of the disease, which used formerly to be called rheumatic white swelling, it was attacked by leeches, fomentations, and stimulating liniments, and the tincture of Iodine was applied in the way recommended by Mr Buchanan, which certainly was of great service in absorbing the fluid appropriate internal remedies, were also given at the same time, and in a few weeks the patient was able to walk, and use his limb, but a little swelling and

preternatural secretion of synovia still remained, and when any violent exercise was taken, a pain was felt in the back part of the knee, together with considerable weakness, to relieve which a bandage was always worn. —

In this way nine months passed over without anything further happening when again the old symptoms returned the increased secretion of synovia was great, but the pain was principally confined to one spot, the anterior part of the internal condyle, where it (pain) was felt on pressure or movement of the limb, it soon became so acute that the patient was compelled to keep the knee perfectly quiet, a liniment of olive oil, and sulphuric acid, was rubbed on it night and morning

which is much recommended by Sir Benjamin Brodie, as being beneficial in slight cases of synovial inflammation though continued for some time, it afforded but little relief. The pain however was removed by blistering, but on the patient's attempting to walk, catching pains were felt in the back part of the knee, as if something had got between the articulations, these continued for about a week, whenever the patient attempted to walk, and once day, on exercising the knee a little more than usual, all in an instant something gave way as it were, and slipped in between the condyles of the femur, and head of the tibia, and caused such excruciating pain, as to make the patient

fall to the ground, on rising he found he was unable to extend the knee and it remained bent at an obtuse angle, all movements of it causing the most excruciating pain, great swelling, inflammation, and increased secretion of synovia. Followed on examining the knee, nothing was discovered to be out of its place, and the leg remained half bent without any apparent cause, all that could be done was to subdue the swelling and inflammation, for this purpose two blisters were applied every night for a week, one on each side of the rotula, this practice I believe, was first employed by Sir Benj. Brodie who found that several blisters applied in succession, were of greater

advantage than a single blister kept open by lavine ointment". At the end of this period, the leg admitted of a little but not perfect extension, & this not without giving a great deal of pain, much swelling still was left the blisters were healed, and the patient began to take the Hydriodate of Potash and foment the joint well with hot water and in the course of a fortnight by applying an elastic bandage round the knee, he was able to walk, but on taking much exercise the swelling returned, though without pain, The patient remained in this state about a month, when he fancied he felt something creep up the inside of his left knee, and on applying his hand, he discovered a foreign body, which he thought was round, and about

the size of a sixpence, he immediately tried to secure it, but in this he was unsuccessful, for on the least movement, it soon slipped to some other part of the joint, taking great latitude from the external to the internal condyle & being sometimes above, and sometimes below the patella, but mostly on the outer side above the patella, sometimes it would entirely disappear for several days together, and come forth again on any violent exertion, it did not occasion any pain except when it got under the rotula or ligamentum patellae when the pain was severe, and always followed by inflammation, which took several days, and the application of leeches to subdue, The plan recommended by Middleton and Loach was then tried

namely that of fixing the foreign body in the upper part of the capsule, and keeping it there by means of a ring and bandage with the view of causing adhesion — this however failed on account of the violent pain and inflammation it caused, and moreover it did not effectually confine it to one place, —

The patient was now determined to have it extracted, the knee was kept very quiet for two days before the operation in order to allow any inflammation there might exist to subside, and his bowels were freely opened; The cartilage was then forced up as high as it could be got, on the outer side of the patella it being there most superficial, and being forcibly retained in this situation, an incision was made upon it's whole length

this brought into view the white glistening body
and upon another touch of the knife
it sprung out, the lips of the wound were
immediately pinched together & secured
by adhesive plaster, a bandage and splint
were then applied to keep the limb
perfectly quiet, only a drop or two of
synovia escaped during the extraction
No bad symptoms of any description follo-
wed, and the patient was able to walk
about in a week after the operation

With regard to the manner in which
these loose bodies are formed in joints
very little that is either conclusive or
satisfactory, appears to be known. —
According to Sir Everard Home, Mr Hunter

was the first person who attempted to
give any proper account of their origin.
Hunter had instituted some experiments
to prove a living principle in the blood
and he endeavoured to account for the
formation of these bodies according to that
theory, he first took it for granted that in
these cases there was an extravasation of
blood into the cavity of the joints. The
first change he found to be coagulation
and the coagulum thus formed, if in con-
tact with living parts, did not produce
an irritation similar to extraneous matter
nor was it absorbed, and taken back
into the constitution, but in many
instances proceeded it's living principle
and became vascular, receiving branches
from the neighbouring blood vessels for it's
support, it afterwards underwent changes

rendering it dissimilar to the parts to which it was attached, and which supplied it with nourishment. When a coagulum adhered to a surface which varied in its position, the attachment was rendered in some instances pendulous and in others it was entirely broken. M. Lyonnet in his elements of surgery in speaking of these moveable cartilages in joints says "the origin of such bodies has been ascribed to the effusion and organization of blood and lymph; to the detachment by fracture of a portion of the articular surface, and to the separation of morbid growths from the margin of the cartilages of the joints. The last of these suppositions

is on the whole the most probable, as the bodies in question, are often observed by the patient to be pipped before they are moveable, and they have been repeatedly found on dissection adhering to the extremities of the bones, it may also be observed, that, so far as can be learned by external examination, they do not suffer any change of shape or size after they are first discovered."

Sir Benjamin Brodie has mentioned two cases in which a bony ridge had been formed round the margin of the cartilaginous surface of the joint, and in consequence of the motion of the part, portions had been broken off, and lay loose in the cavity of the joint.

The next thing to be considered is the adaptation of any measure which would

relieve the sufferer from the inconvenience resulting from the presence of these bodies, and at the same time allow of the limb being used, for this purpose it was recommended by Middleton and Gooch, to endeavour to conduct the extraneous body to some part of the joint, where it occasions no pain and there secure it with the view of promoting adhesion to the contiguous parts, this plan was tried in case 13 but failed on account of the swelling and inflammation it caused, Mr. Key of Leeds recommended the use of a Lead knee cap, and one case is mentioned by Mr. Samuel Cooper where this cap was used for ten years with success, and another, in

which it was used for a year, and then discontinued, the patient appearing cured. Sir Charles Bell in his Institutes of Surgery, recommends the practice of Mr Copeland of Sunderland which is, to clear up the cartilage with the points of the fingers, to the line of the reflection of the capsule upon the inside of the head of the femur and then to strip it with a ring and compress and bandage, singularly enough the cartilage in my body adheres and if it adheres it is absorbed"

These immovable cartilages are with respect to their appearance hard, roundish, or flattened, sometimes tuberous, they are mostly cartilaginous, though sometimes

partially hang in the centre, they have a glistening pearly lustre, they vary in size from that of a barley corn to that of a hen's egg, and frequently more than one are found in the same joint, two or three are most common,

The last thing to be considered is the operation for the removal of these bodies, so far as regards the operation itself, is so extremely simple, that little could be said about it, except merely to point out any little difference in its performance recommended by different surgeons, but when we came to look to the results of these operations

the subject assumes a much more important aspect, In the first place the danger is incurred consequent on cutting into any large joint, and secondly we have to look to the formidable sequelæ of severe synovial inflammation, extensive suppuration, sometimes requiring amputation, anchylosis of the joint, and in some few instances even death, These circumstances would make every prudent surgeon cautious in recommending the operation, Though doubtless the greater number of persons who are operated upon recover without any bad symptoms, still it is always

running a great risk, and undoubtedly it is the duty of the surgeon to try every palliative means first, and only in the event of the symptoms becoming unbearable, or the person's being incapable of using the limb, to recommend an operation —

The most common method of performing it, is to have the limb extended and to secure the cartilage on the inside of the joint, as far up as possible under the existing circumstances an incision may then be made upon it, and if the pressure requisite to pop it, be not sufficient to force it out at the aperture, it may be

seized with a hook, and extracted.
Mr. Lyne is of opinion, that the incision
should be large enough to allow of
it's escape by pressure, so as to render
unnecessary the use of either hook
or forceps. Some slight difference
has been pointed out in the method
of extracting the cartilage by Sir Charles
Bell, and in conclusion, I shall
detail his method of performing the
operation. Having forced up the body
on the inside of the head of the femur
it is the business of the assistant to
hold it there, with every precaution

against it is slipping away. 2. Draw the integuments aside, and make the incision with a very sharp scalpel carrying it lightly, so as not to press the cartilage. 3 When the thin synovial membrane alone covers the cartilage puncture it with a strong couching needle, and strike the cartilage, so as to pierce it, 4. And now, drawing the knife lightly by the side of the needle you cut the capsule, and lift out the cartilaginous body. When the wound is permitted to retract, and the integument to take its natural position, the incision is oblique, and will more readily adhere, than if the cut had been made direct into the joint."