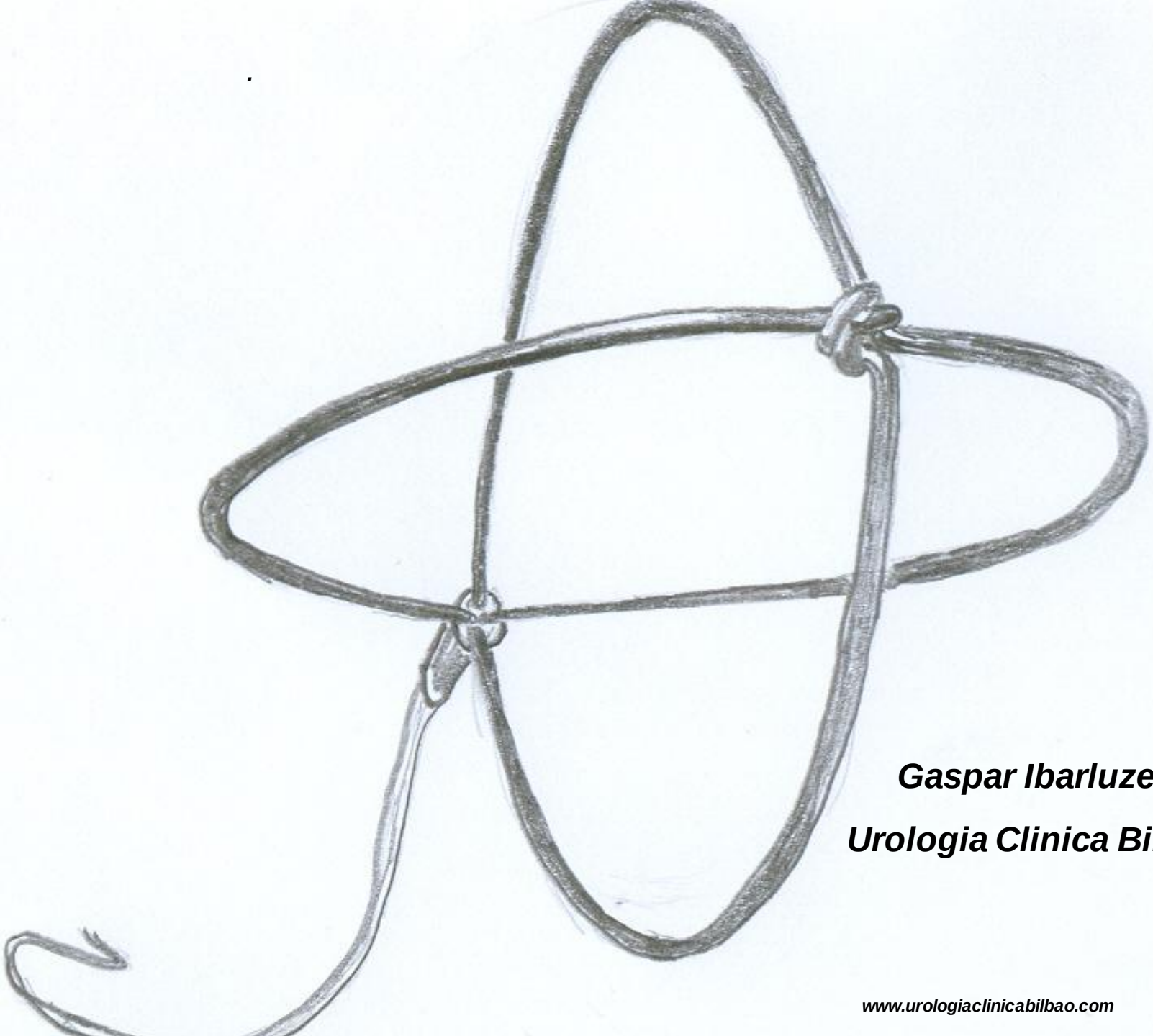


Gaspar Ibarluzea

Urologia Clinica Bilbao

Dr Gaspar Ibarluzea

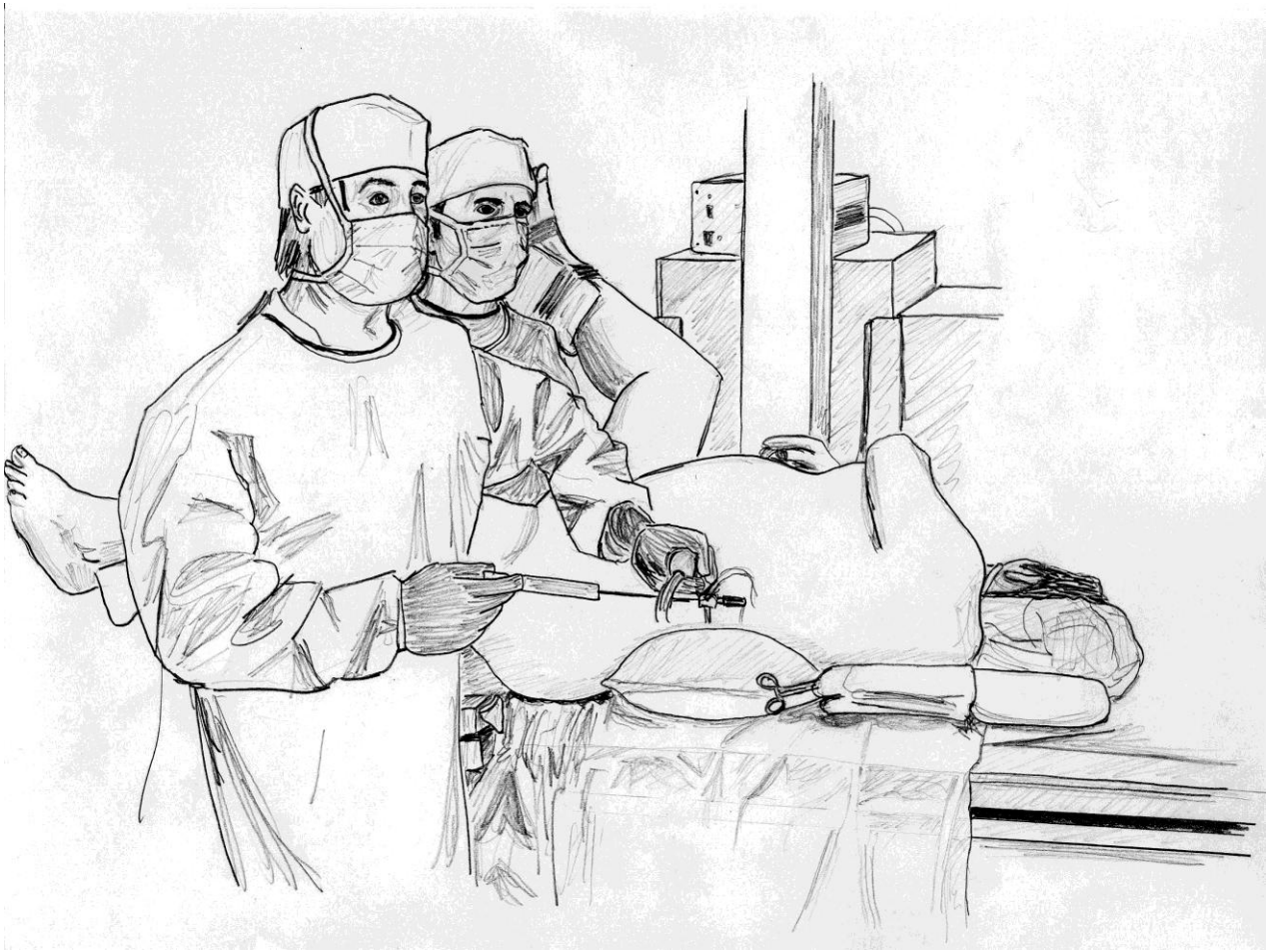
The Spanish striking contribution to stone investigation and endourology

EULIS15

Alicante, Spain


COOK
VORTEILE

Valdivia's Supine PNL: An advantageous position



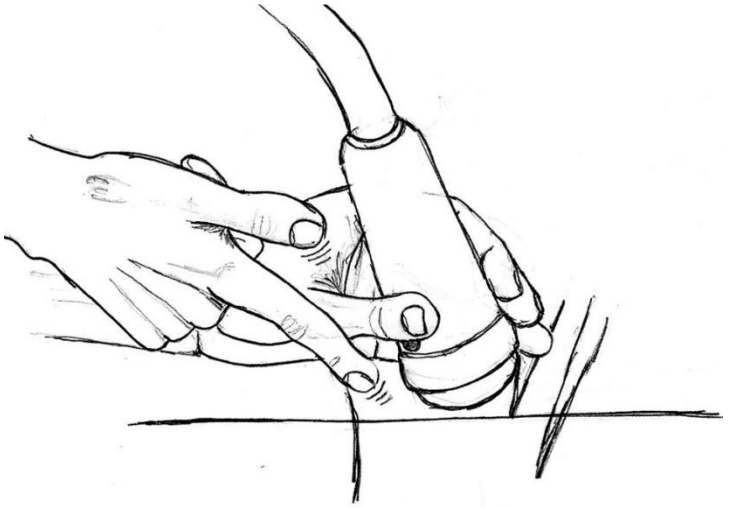
Gaspar Ibarluzea
Clinica IMQ Zorrotzaurre
Bilbao, Spain

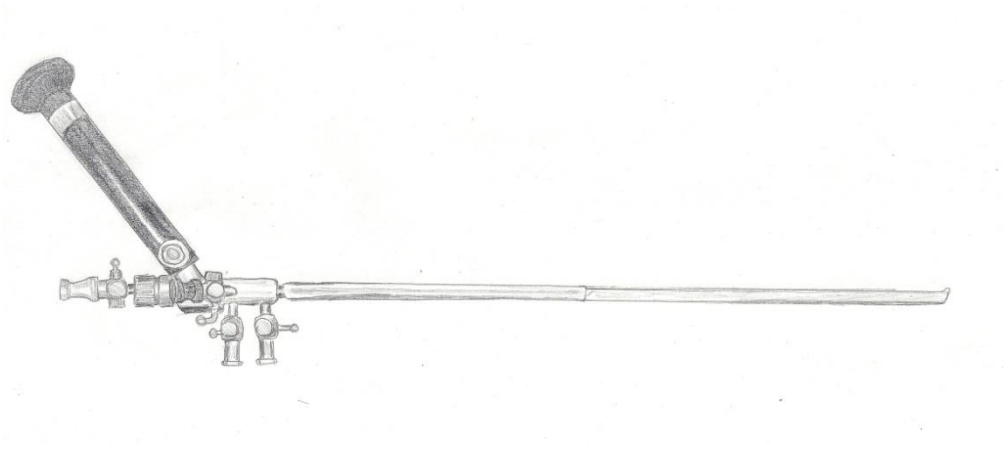

OLYMPUS

Endourology was born in the early 80‘s of last Century. Dr Peter Alken, in percutaneous renal surgery and Dr Enrique Perez Castro, in transurethral ureteroscopy were for our group the reference figures.

We started the practice of rigid ureteroscopy at the end of 1984 thanks to our close relationship with Dr Perez Castro.

By the middle of 1985 we started working with percutaneous renal surgery following Dr Alken method and we learned from the beginning to make the ultrasound guided punction as it seemed to us the simplest and safest way to reach the kidney cavities.





In those years there was nobody near to us from whom to learn, three books, published before 1985, were our sources:

Percutaneous Renal Surgery. Wickham J.E.; Miller R.A. 1983

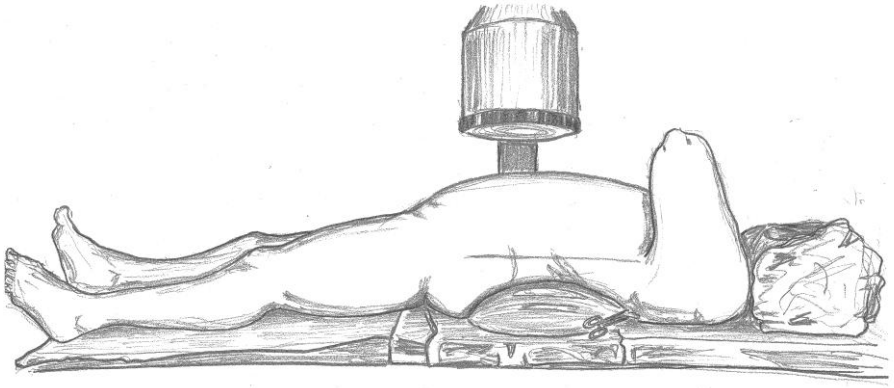
Percutaneous Surgery of renal Stones. Technics and tactics. Korth K. 1984

Techniques in Endourology: A guide to the percutaneous removal of renal and ureteral calculi. Clayman R.V.; Castañeda-Zuñiga W. 1984

We specially considered Dr Knut Korth book as the Bible in PCNL in those days. It was a time before extracorporeal lithotripsy and therefore abundant cases with which to practice the technic. We were very lucky because this situation allowed us to choose the best calculi to improve our learning curve.


VORTEILE
aus einer Hand
OLYMPU
EULIS15
P.J. Osther
Denmark

Valdivia's Supine Position for PNL



Dr. Gabriel Valdivia

In 1987, Gabriel Valdivia, M.D., from the Department of Urology, Hospital Clínico Universitario, Zaragoza, Aragón (Spain) described a percutaneous nephrolithotomy technique in the supine position with a 3 litres serum bag below the ipsilateral flank.

Ten years later he presented 557 consecutives percutaneous nephroscopies performed in this way. He demonstrated the surgical and anaesthetic advantages of the procedure with no increase in risk for the patient.

Dr. Gabriel Valdivia

28 years ago

1987
Archivos Españoles de Urología

Arch. Esp. de Urol. 40, 3 (177-180), 1987

Nefrolitectomía percutánea: Técnica simplificada (nota previa)

J. G. VALDIVIA URIA, E. LACHARES SANTAMARIA*, S. VILLARROYA RODRIGUEZ, J. TABERNER LLOP, G. ABRIL BAQUERO y J. M. ARANDA LASSA

* *Servicio de Anestesia y Reanimación. Hospital Clínico Universitario. Cátedra y Escuela Profesional de Urología. Zaragoza. España.*

Resumen.—*Se expone como innovación técnica, que implica el proceder llevado a cabo por los autores en el curso de 16 nefrolitectomías percutáneas (NP). La realización de la NP con el paciente en posición de decúbito supino y el empleo de una combinación de anestesia local con mepivacaína y analgesia-sedación general, con buprenorfina y etomidato, sin intubación traqueal.*

Las ventajas obtenidas son múltiples: simplificación técnica, disminución del tiempo quirúrgico, disminución de la morbilidad quirúrgica, menor coste económico y mayor comodidad para el cirujano.

Palabras clave: *Endourología. Nefroscopia. Nefrolitectomía percutánea. Analgesia intravenosa.*

Summary.—*The authors have performed 16 PCNs using a modified technique which consists of having the patient lying in the supine decubitus position and the combined use of local (Mepivacaine) and general (Buprenorphine and Etomidate) anaesthesia without tracheal intubation.*

The following advantages are afforded by the foregoing method: simpler technique, shorter operation time, reduced operative morbidity, less costly, and more comfortable for the surgeon.

INTRODUCCION

La nefrolitectomía percutánea (NP) es una moderna técnica de cirugía «endourológica», que se está practicando ya, de un modo casi rutinario, en una buena parte de los centros urológicos de este país (1, 2, 3, 4, 5, 6, 7, 8, 9, 10), y que ha sido objeto de trato preferente, por no decir casi exclusivo, en los últimos cursos, simposios y congresos de nuestra especialidad.

Resultaría, por tanto, incongruente volver a hacer referencia aquí a los principios básicos e indicaciones de esta técnica, de todos ya sabido. Es más bien nuestro propósito aportar nuestra experiencia a la nefrolitectomía percutánea, tras la puesta en práctica de las innovaciones técnicas sugeridas recientemente por H. J. REUTER en la Reunión Nacional de Endoscopia Urológica (Clínica «Puerta de Hierro», Madrid, 25 de abril de 1986) y que ya tuvimos ocasión de adelantar parcialmente en nuestra comunicación al LI Congreso Nacional de Urología, celebrado en Pamplona del 25 al 28 de mayo de 1986.

MATERIAL Y METODOS

Desde el día 2 del pasado mes de abril, hemos tenido ocasión de realizar 16 nefrolitectomías percutáneas, a un conjunto de 12 pacientes. En un caso ésta fue bilateral y se precisó de tres sesiones quirúrgicas (en uno de los lados se realizó una pieloureterolisis) y en dos pacientes hubo que hacer un segundo tiempo para extraer pequeños fragmentos residuales.

A todos estos pacientes se les realizó la NP con una técnica muy simplificada y que pasamos a exponer:

1. *Posición del paciente:* En todos los casos ésta fue en decúbito supino, con una ligera elevación del flanco correspondiente (fig. 1), mediante la colocación, debajo

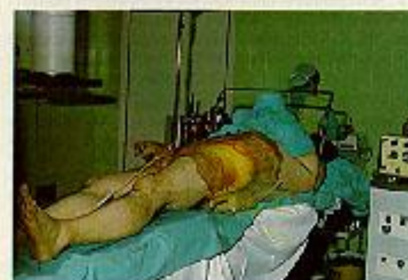


FIG. 1.—*Posición del paciente.* [illegible]

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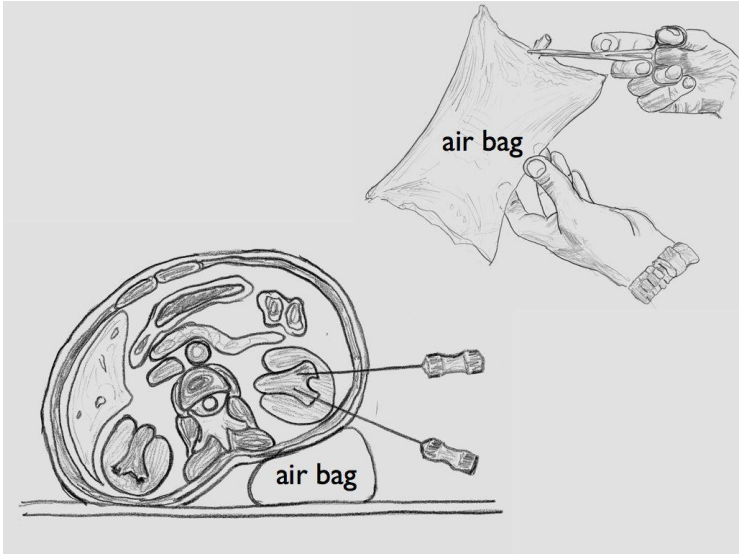
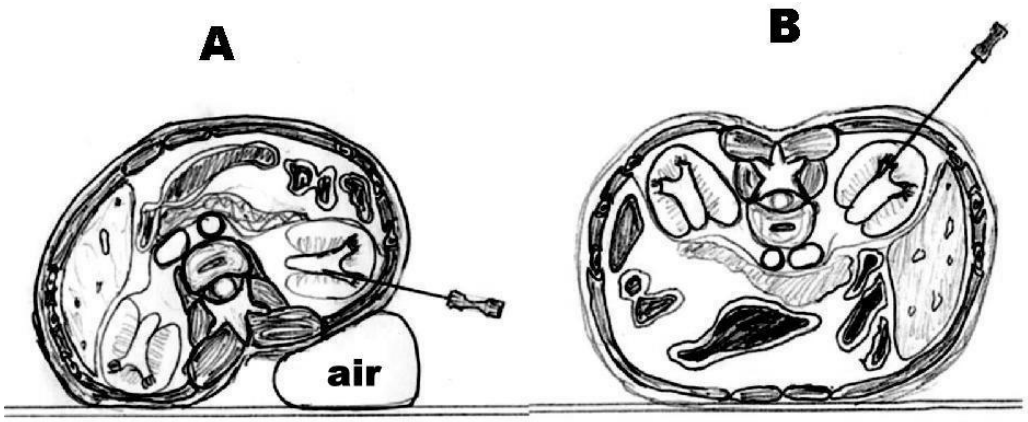
Trabajo recibido el 4 de septiembre de 1986.

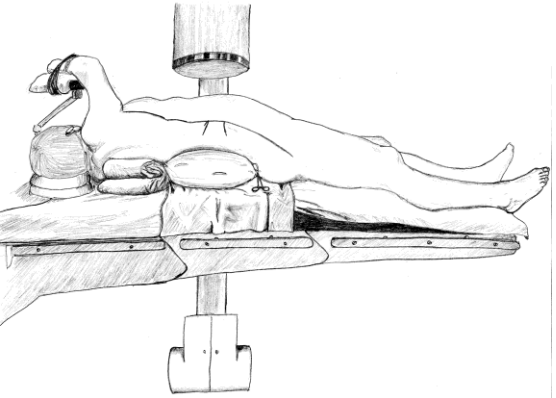


Valdivia position: supine with air bag below the operating flank. A 3lt. saline bag filled with air and clamped with a Köcher forceps is used.

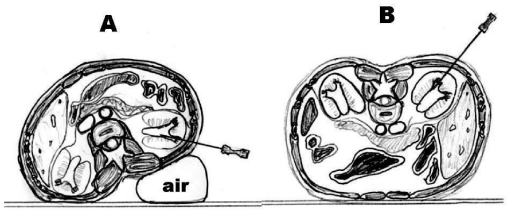
This permits volume control until the most comfortable position is found.

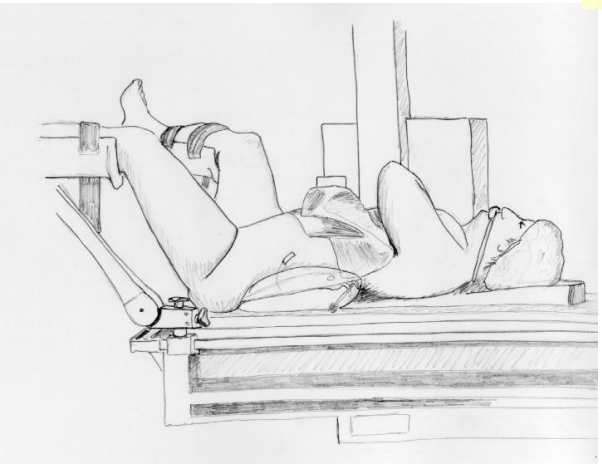
In Valdiva position the direction of the needle rises slightly up which may surprise us at first, when we change from the prone position to the supine.



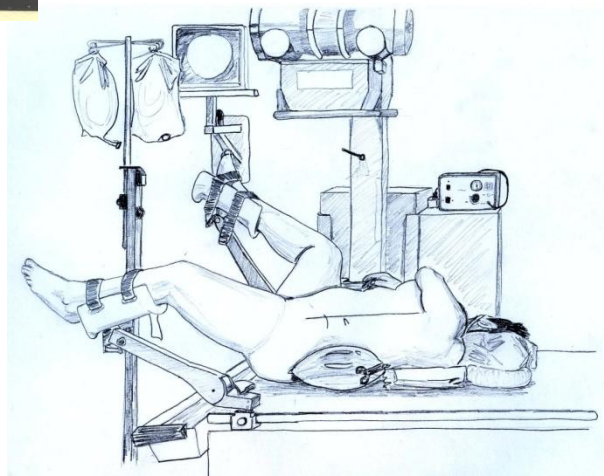


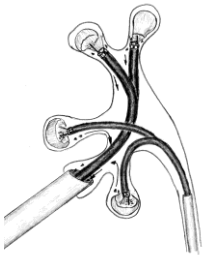
PNL inValdivia's supine position
1987



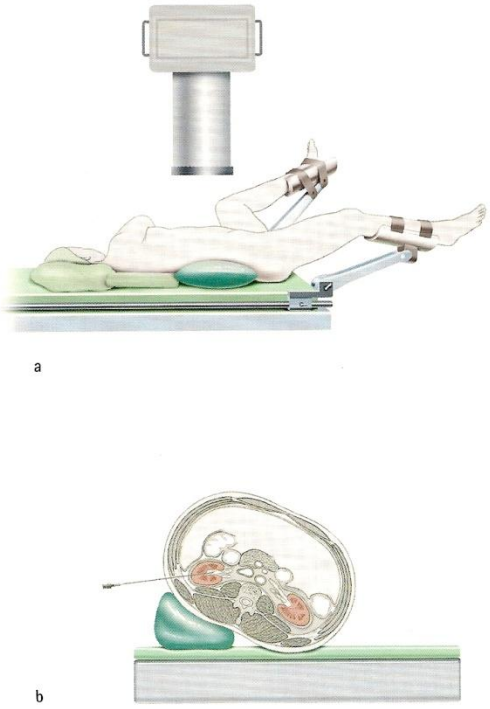


Natural evolution to ECIRS
Dr.Ibarluzea
1993





Galdakao modified Valdivia position
BJU. 2007



Supine Valdivia and modified lithotomy position for simultaneous anterograde and retrograde endourological access

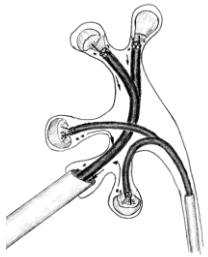
Gaspar Ibarluzea, Cesare M. Scoffone*, Cecilia M. Cracco*, Massimiliano Poggio*, Francesco Porpiglia*, Carlo Terrone†, Ander Astobieta, Isabel Camargo, Mikel Gamarra, Augusto Tempia‡, Josè G. Valdivia Uria¶ and Roberto Mario Scarpa*

*Department of Urology, Galdakao Hospital, Bizkaia, Basque Country, Spain, Departments of *Urology and †Anaesthesiology, University of Torino, San Luigi Hospital, Orbassano, Torino, ‡Urology, University of Piemonte Orientale, Azienda Ospedaliera Maggiore della Carità, Novara, Italy, and ¶Hospital Clinico Universitario Losano Blesa, Zaragoza, Spain*

ILLUSTRATION by STEPHAN SPITZER, www.spitzer-illustration.com

ECIRS

Endoscopic Combined IntraRenal Surgery



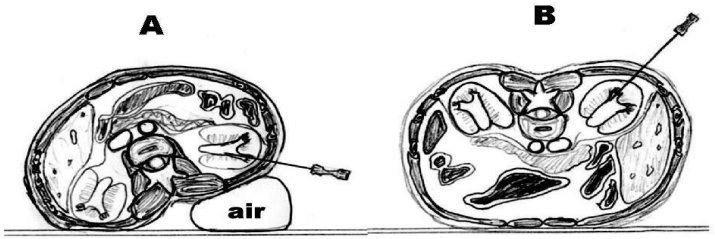
"A procedure that allows a simultaneous approach of different and complex disease of the upper and lower urinary tract by anterograde and retrograde access"

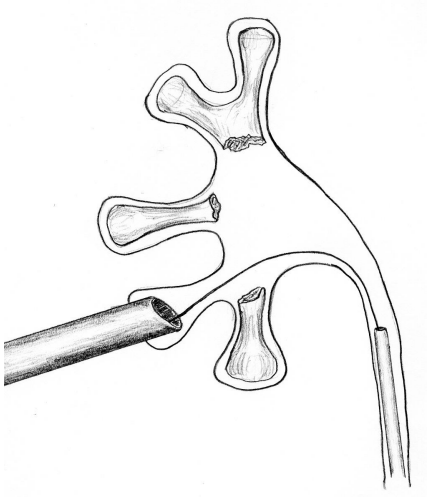
The inventors of Acronym

Azienda Sanitaria Ospedaliera San Luigi di Orbassano. Torino

Supine PCNL. A different approach.

The Evolution from Prone to Supine and from Supine to ECIRS.





Gaspar Ibarluzea
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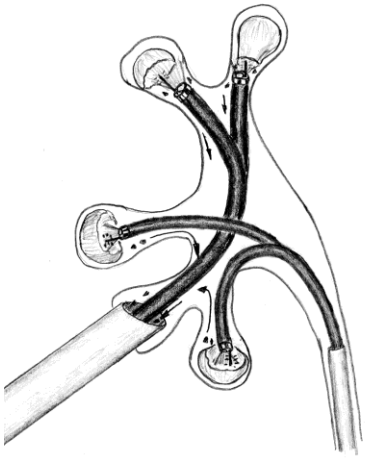
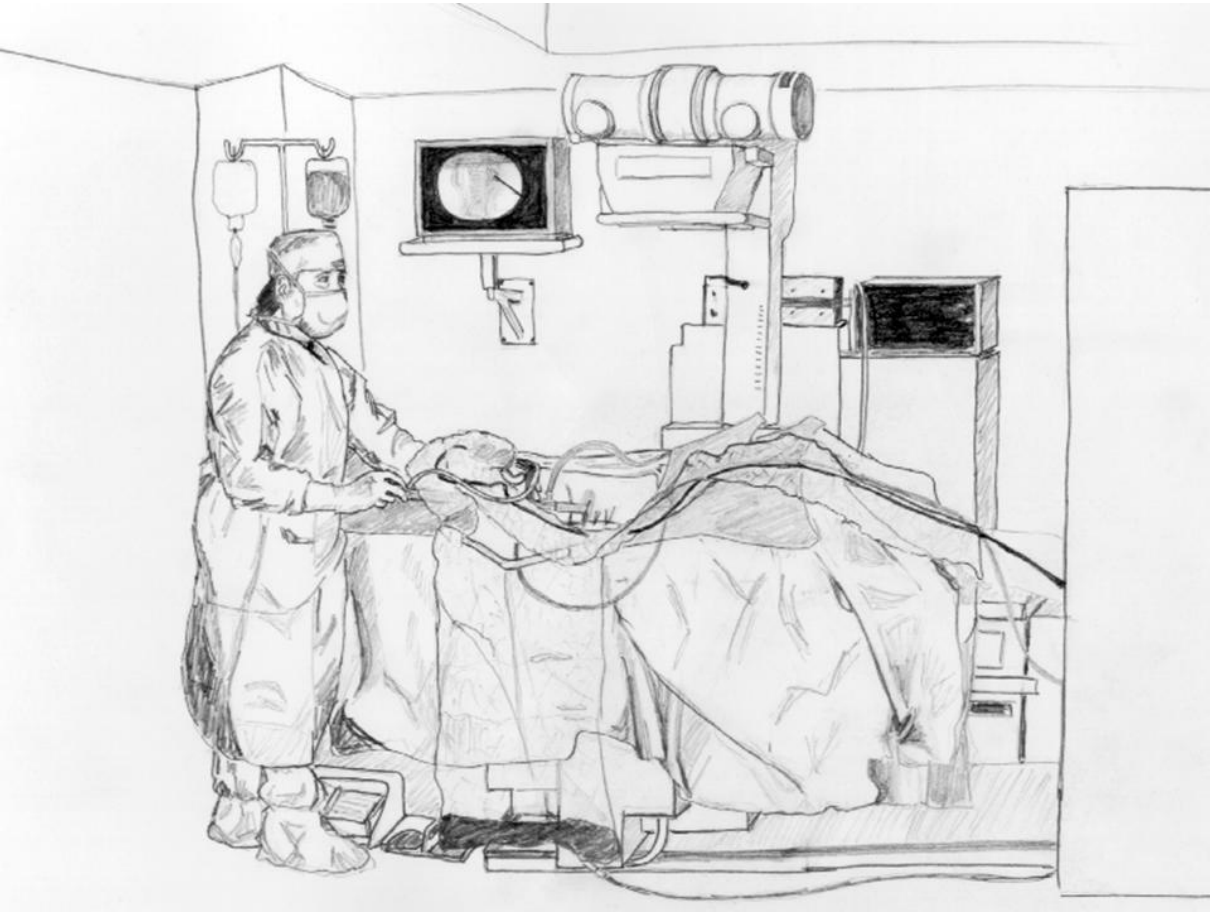
Bizkaia, Basque Country
Spain



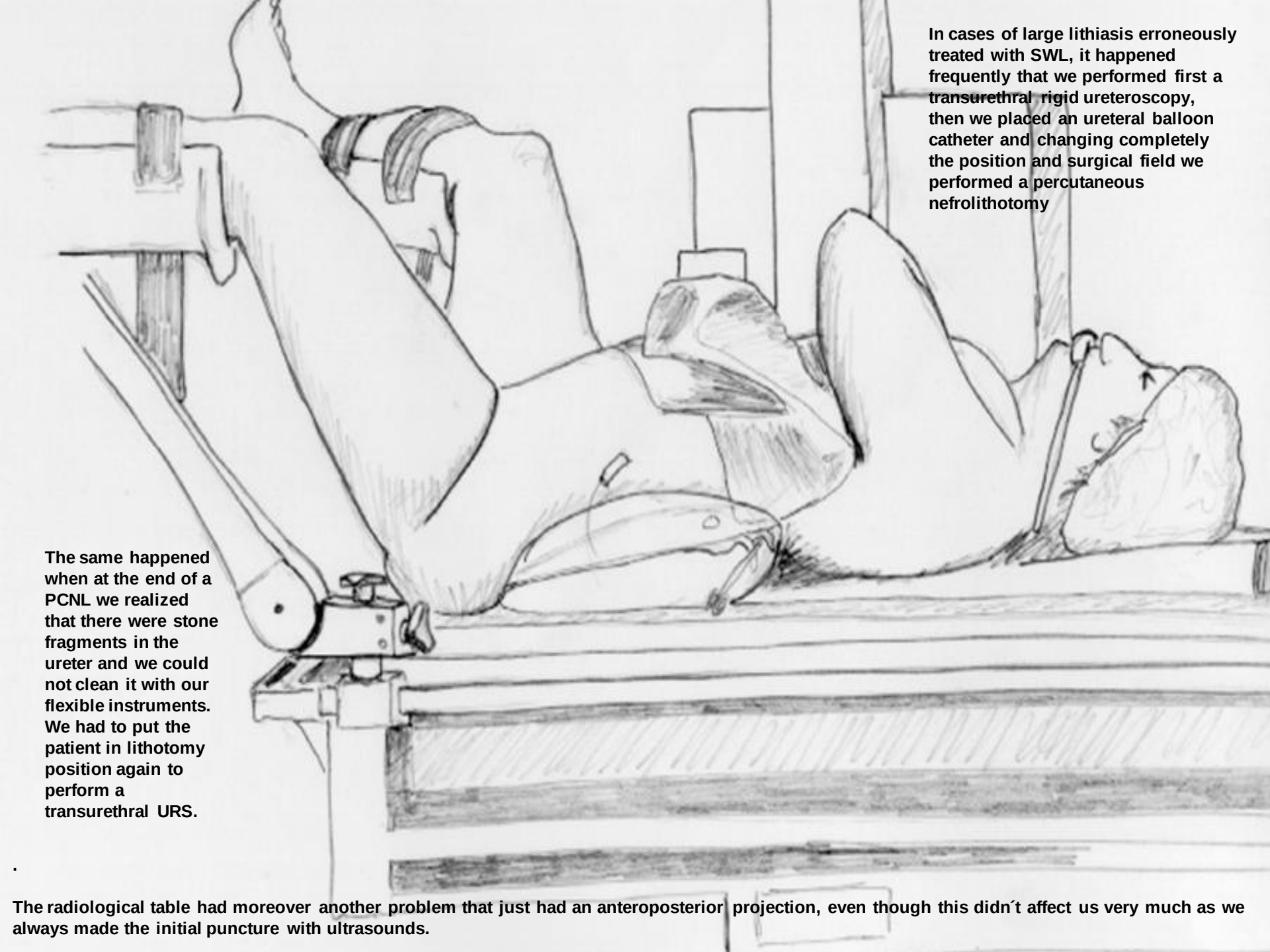
In 1989 a new period started for us with the opening of our lithotripsy section with a Dornier HM4 lithotriptor and an endourological OR



Our operating room exclusively for endourology, was an exact copy of the one that Dr Korth had in the Loretto Krankenhaus of Freiburg with a Philips radiological table specific for urology. This operating room gave us a great agility for our urological practice in all procedures where x-rays were needed, but we soon started to find several problems for the percutaneous renal surgery.

The radiological table only allowed access by one side. When the case involved a right kidney, after placing the uretheral catheter we had to turn the patient over to put him in prone position.This, even though time consuming, was fairly simple.

When the kidney was the left one it was much more complicated. We had to turn the patient around 180 degrees and then turn him over, all this to a patient with general anaesthesia with a catheter in place and in a relatively small operating room full of anaesthesia equipment and urology instruments.



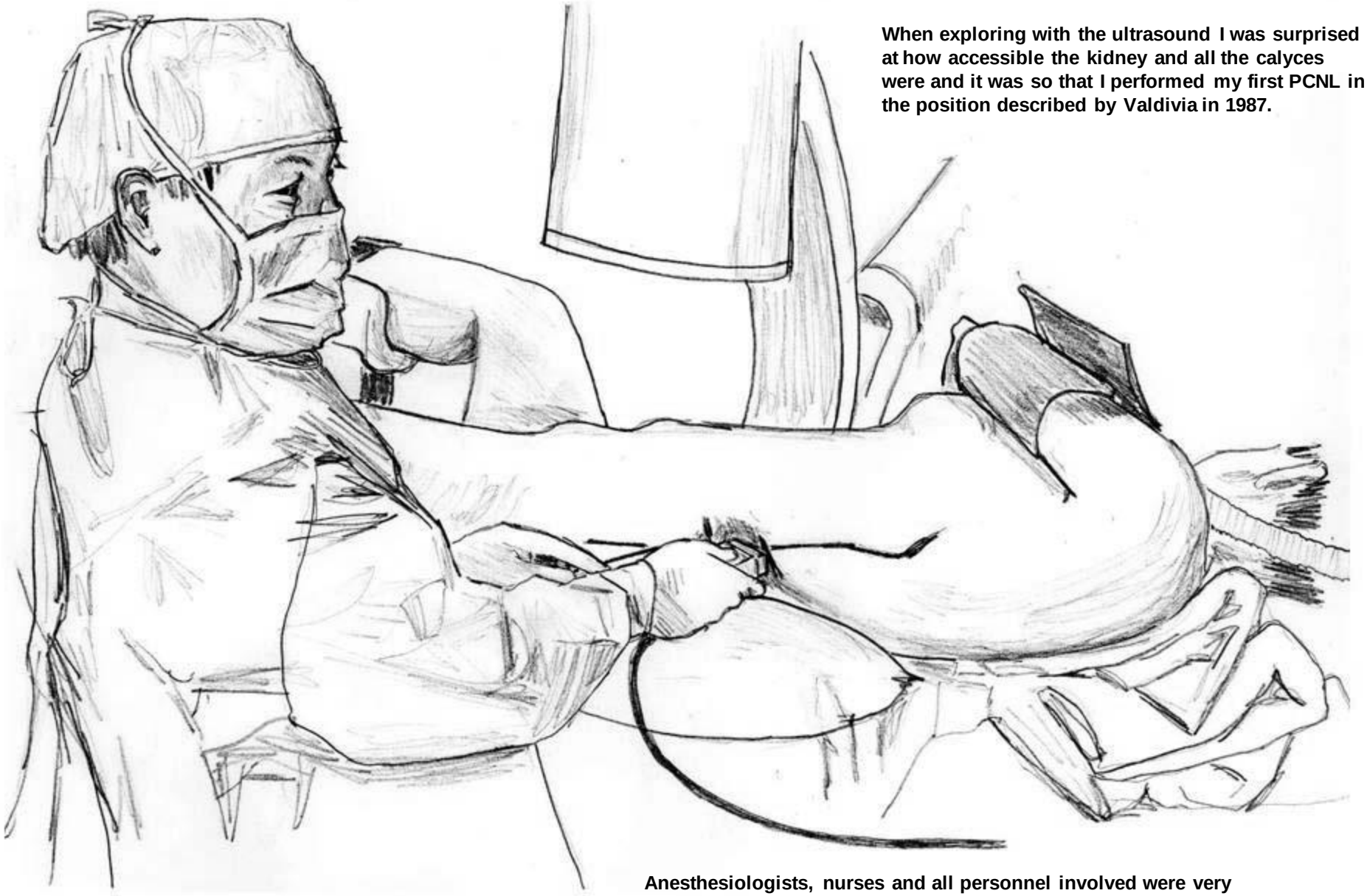
In cases of large lithiasis erroneously treated with SWL, it happened frequently that we performed first a transurethral rigid ureteroscopy, then we placed an ureteral balloon catheter and changing completely the position and surgical field we performed a percutaneous nefrolithotomy

The same happened when at the end of a PCNL we realized that there were stone fragments in the ureter and we could not clean it with our flexible instruments. We had to put the patient in lithotomy position again to perform a transurethral URS.

.

The radiological table had moreover another problem that just had an anteroposterior projection, even though this didn´t affect us very much as we always made the initial puncture with ultrasounds.

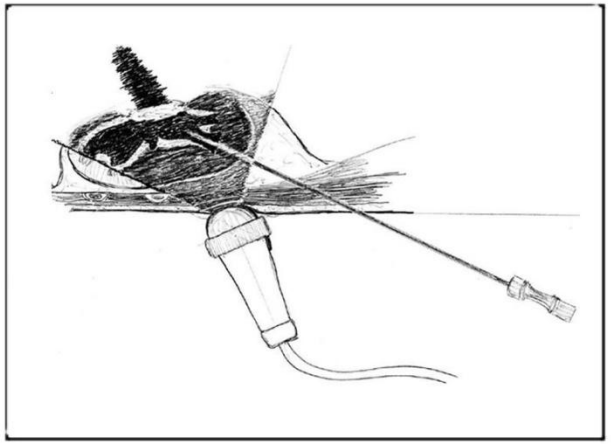
One certain day, at the end of 1992, in a left kidney case, tired of so many complicated maneuvers, after placing the ureteral catheter, I had the idea of putting an air bag under the flank of the patient.

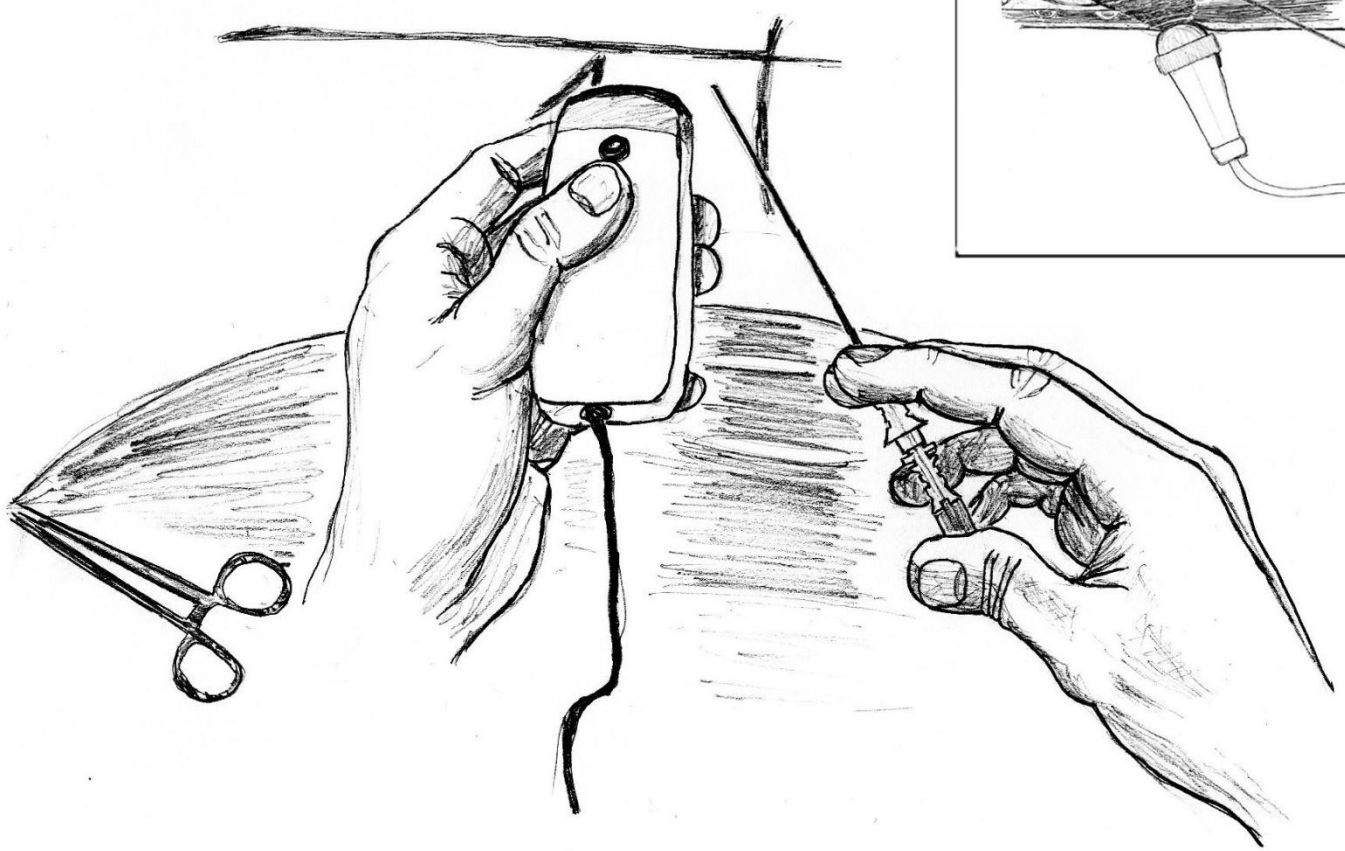


When exploring with the ultrasound I was surprised at how accessible the kidney and all the calyces were and it was so that I performed my first PCNL in the position described by Valdivia in 1987.

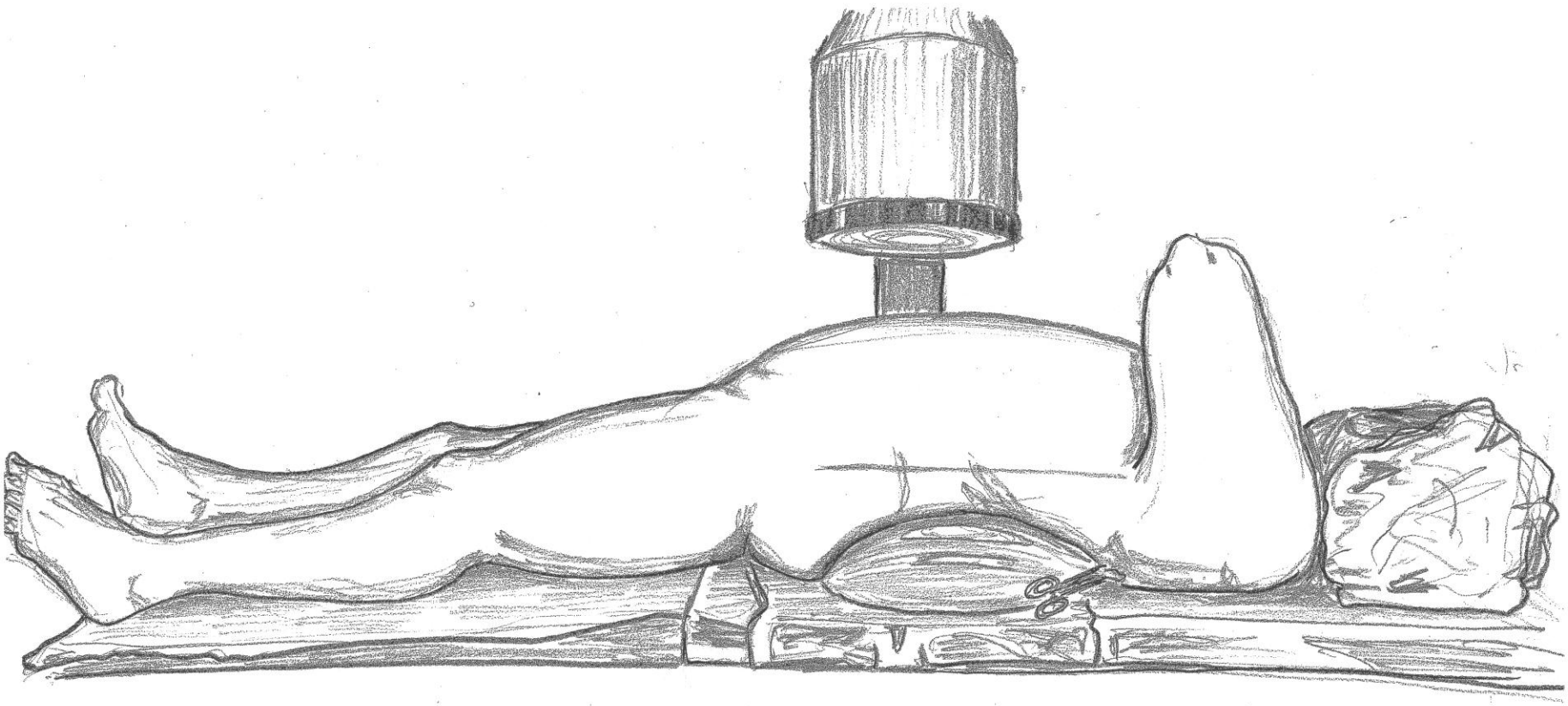
Anesthesiologists, nurses and all personnel involved were very happy having eliminated the complicated maneuvers

The “freehand” ultrasound-guided percutaneous puncture allows us to direct the needle at the most appropriate angle. The trick is to go after the ultrasonic beam with the needle.
It is the safest procedure since it permits the control of the structures located between the skin and the kidney.

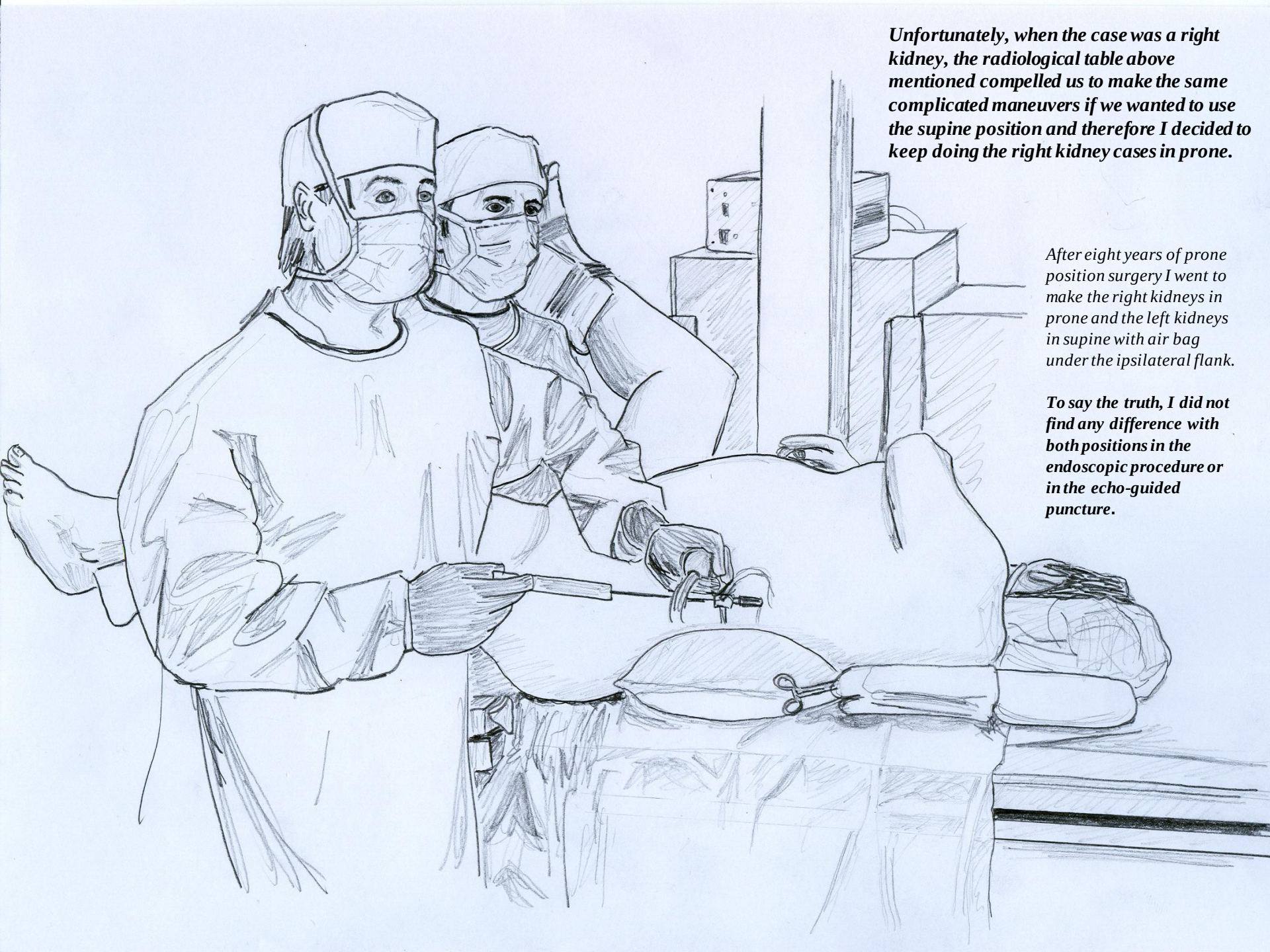




Position described by Dr Gabriel Valdivia in 1987



We started the percutaneous renal surgery in supine with the same protocol we have been using in prone. Lithotomy position, catheterize the ureter and then change the field placing the patient in Valdivia position and leaving the transurethral way with a perfusion of contrast and dye trought the catheter.

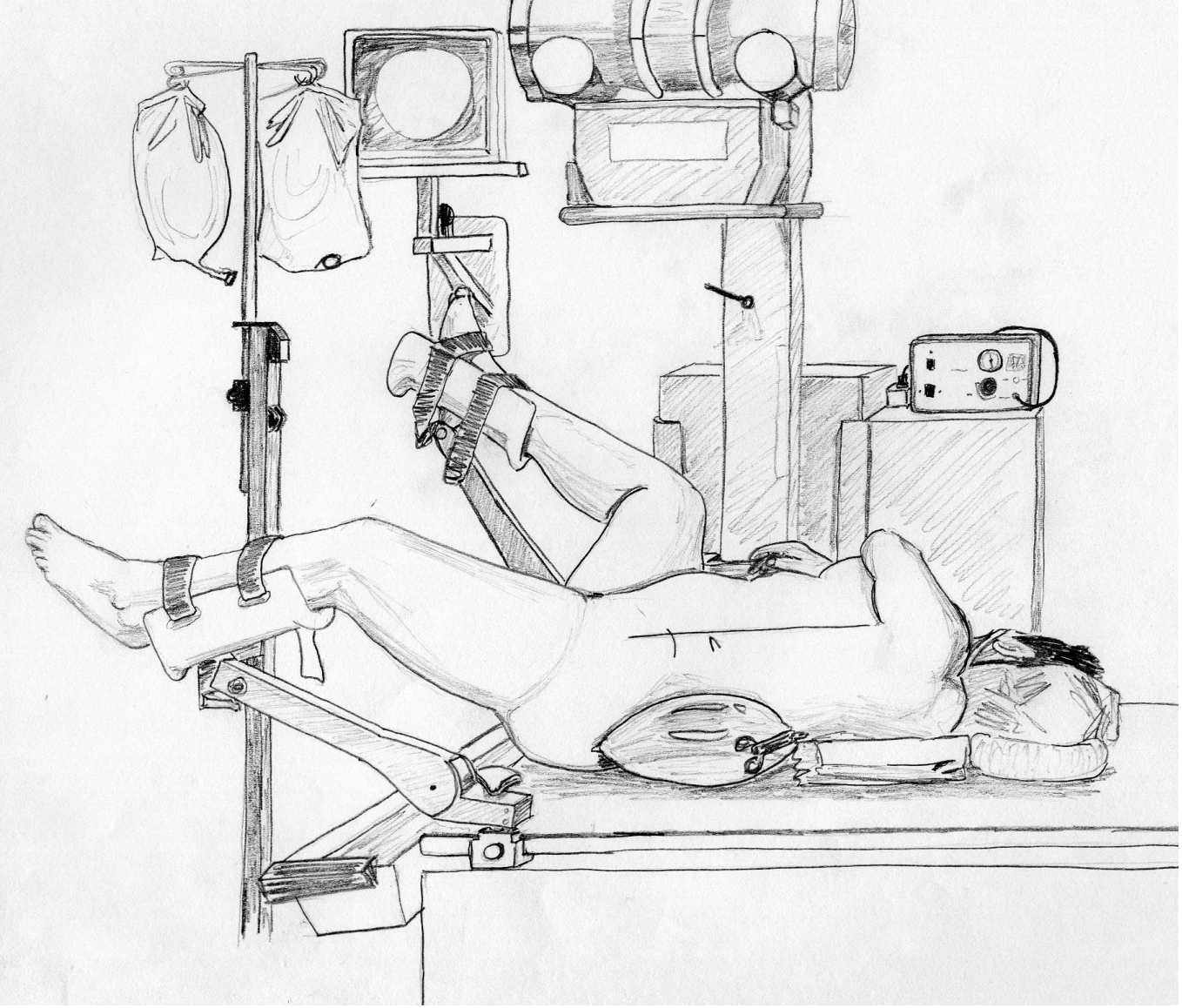


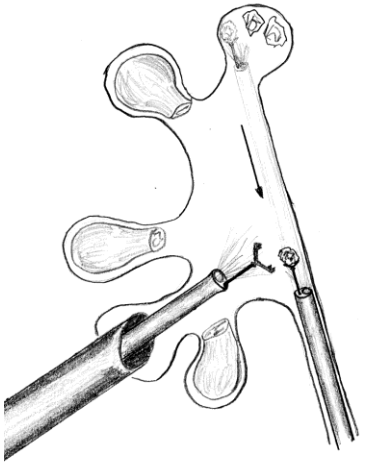
Unfortunately, when the case was a right kidney, the radiological table above mentioned compelled us to make the same complicated maneuvers if we wanted to use the supine position and therefore I decided to keep doing the right kidney cases in prone.

After eight years of prone position surgery I went to make the right kidneys in prone and the left kidneys in supine with air bag under the ipsilateral flank.

To say the truth, I did not find any difference with both positions in the endoscopic procedure or in the echo-guided puncture.

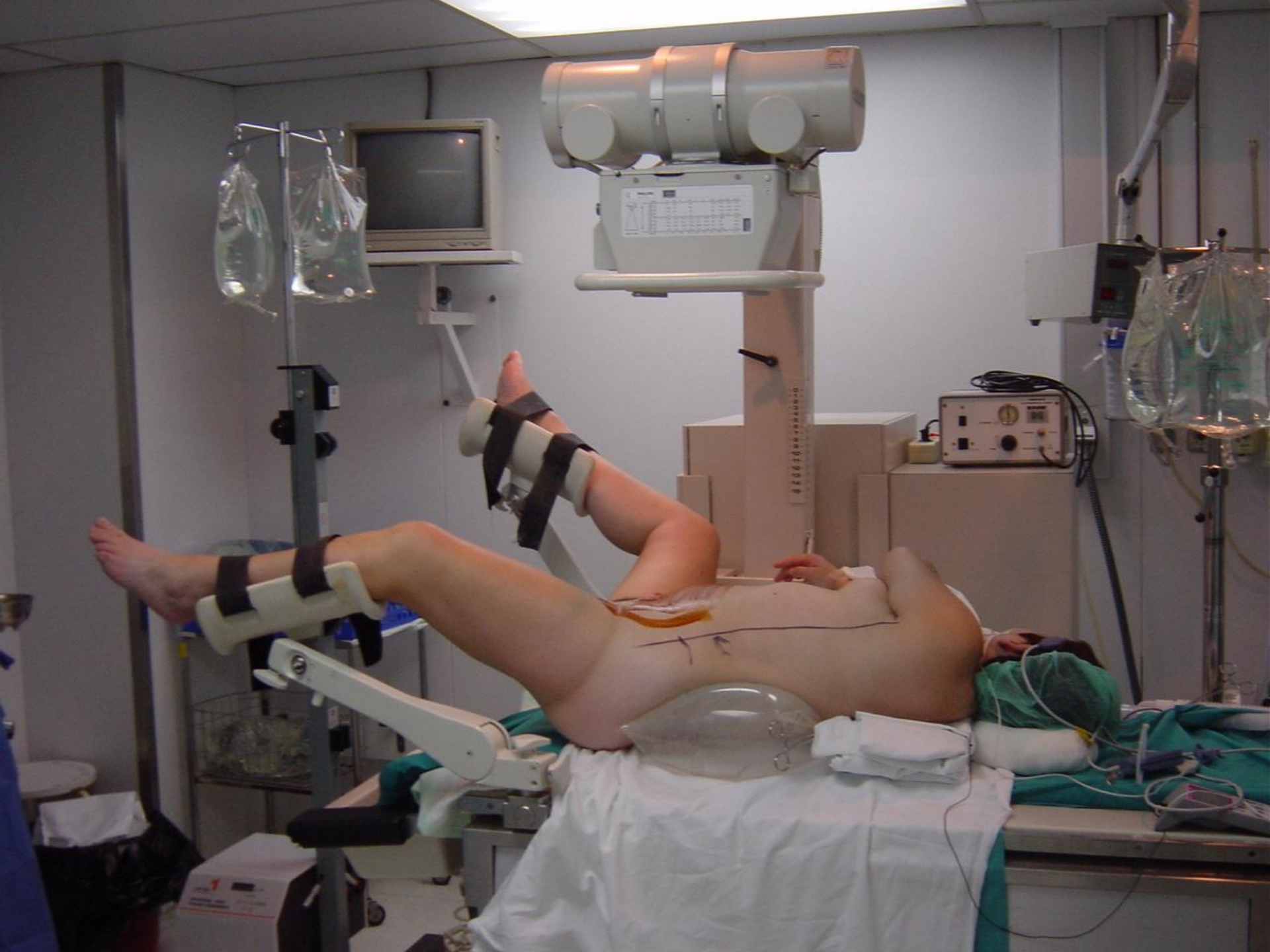
A short time after starting to operate on the Valdivia position, we found ourselves, at the end of a PCNL, with a large number of fragments lodged in the distal ureter. The case was a woman with a SWL due to a calculus of considerable size in the left kidney. After a long time fighting to remove the whole stainstrasse my assistant asked for a rigid ureteroscope, dismantled the field and improvised a transurethral access with the patient in supine position and the knees flexed.

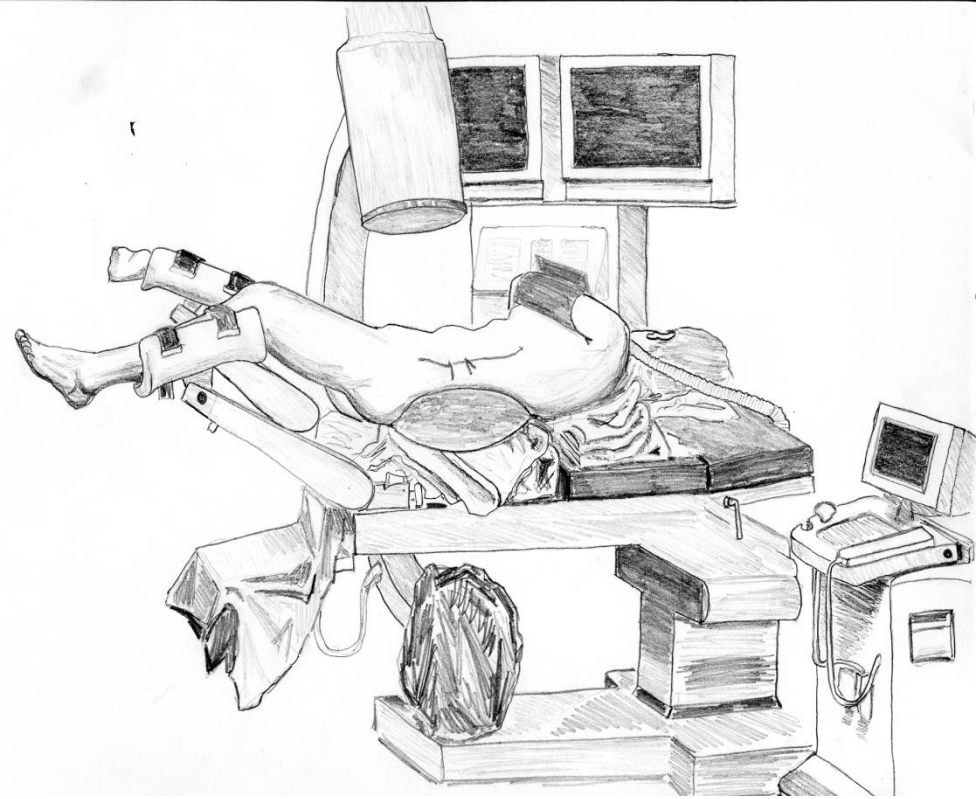




Gradually we developed a more comfortable position for the patient and for the surgeon, finding more appropriate leg holders. The ipsilateral leg extended and with a small knee flexion and the contralateral leg well abducted

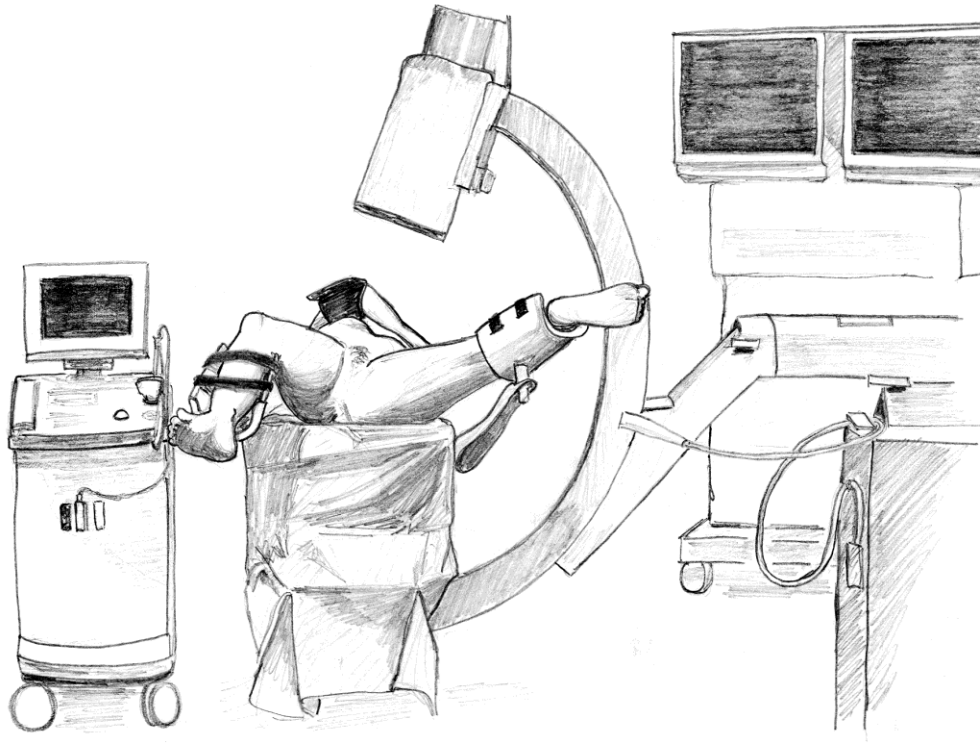
We very quickly solved the case and numerous fragments pushed upwards were easily extracted by the amplatz.



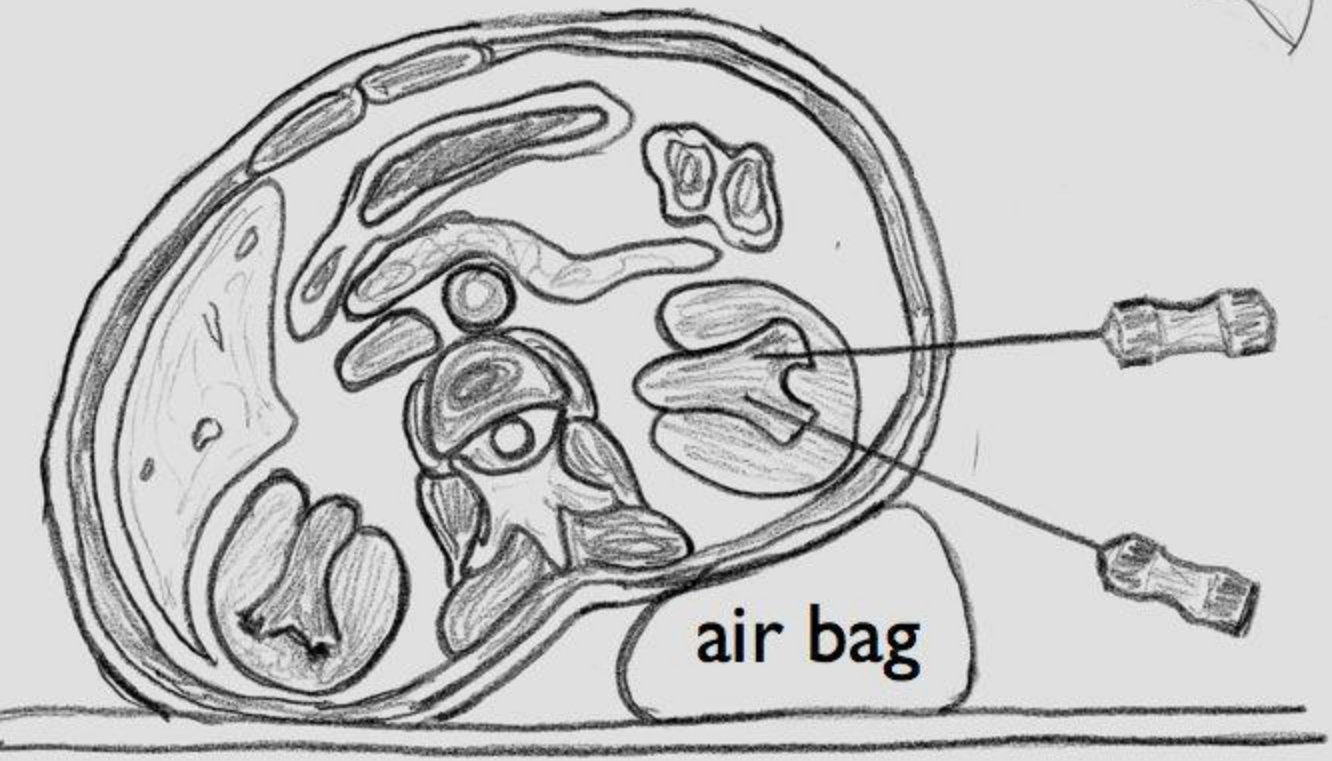


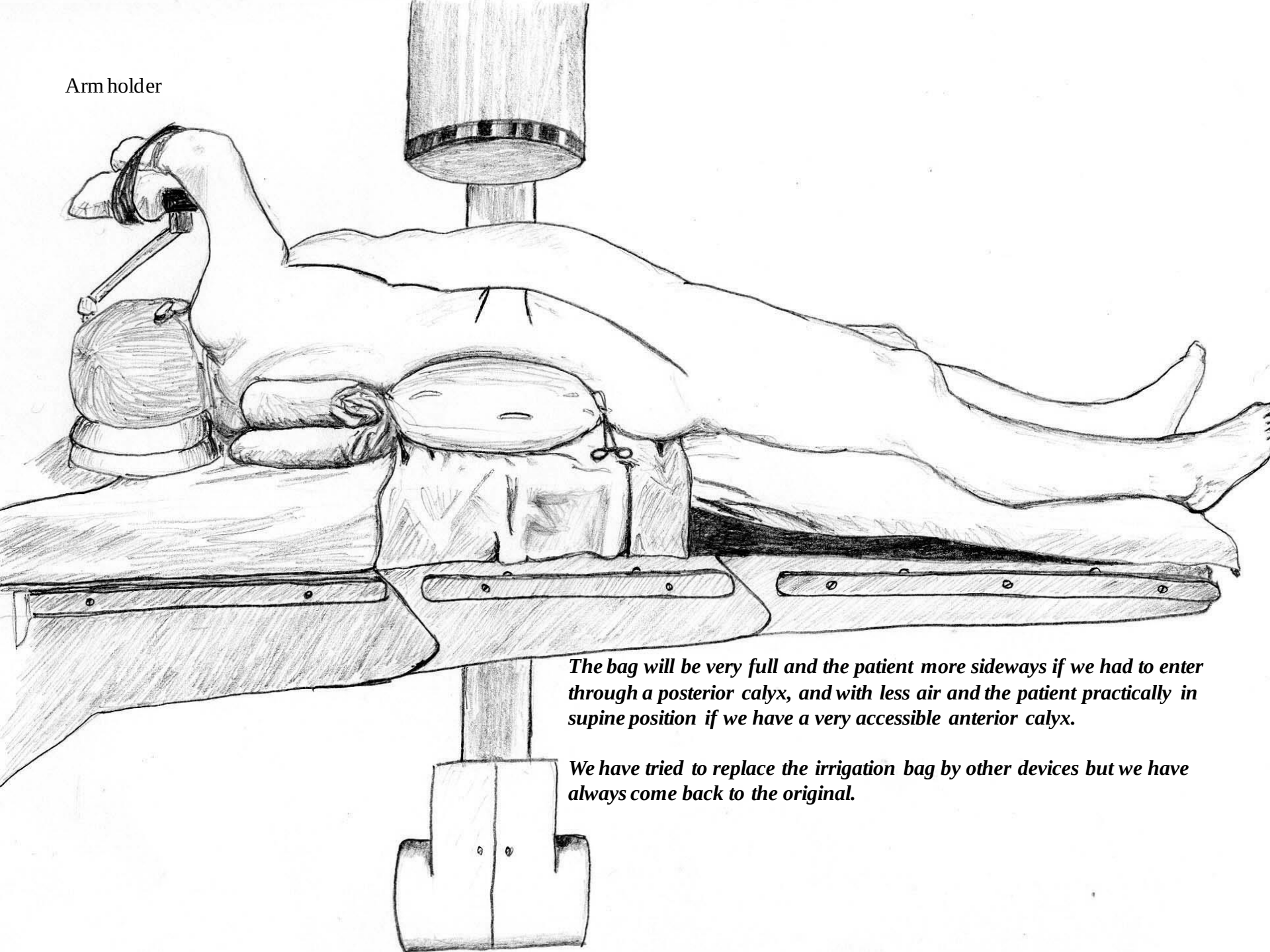
In the late 90´s, after 10 years of intensive work, our Philips table broke down and for budget reasons it was decided not to repair it, which we did not mind as we discovered that the ideal place to work with our position was a large conventional operating room with a good radiolucent table and a good fluoroscopy C arm

Soon we learned that the best place for this technique was the standard operating room with a good C arm. With a small shift in the orbital axis, 10º or 20º, we get an interference free X-ray image.



A 3lt saline bag filled with air and clamped with a Kocher forceps permits volume control until the most comfortable position is found. Depending on the need to enter an anterior or posterior calyx will need more or less air.



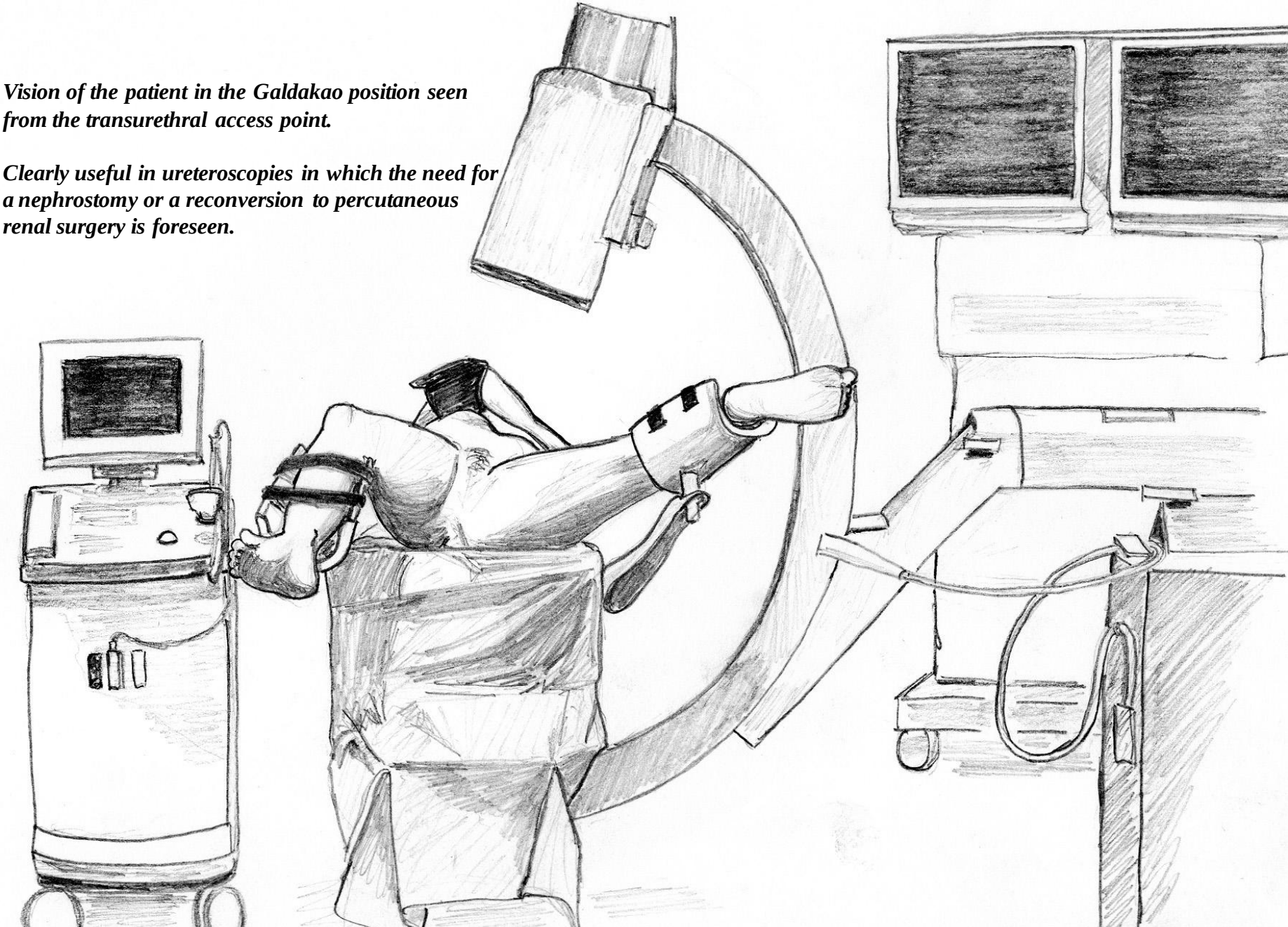


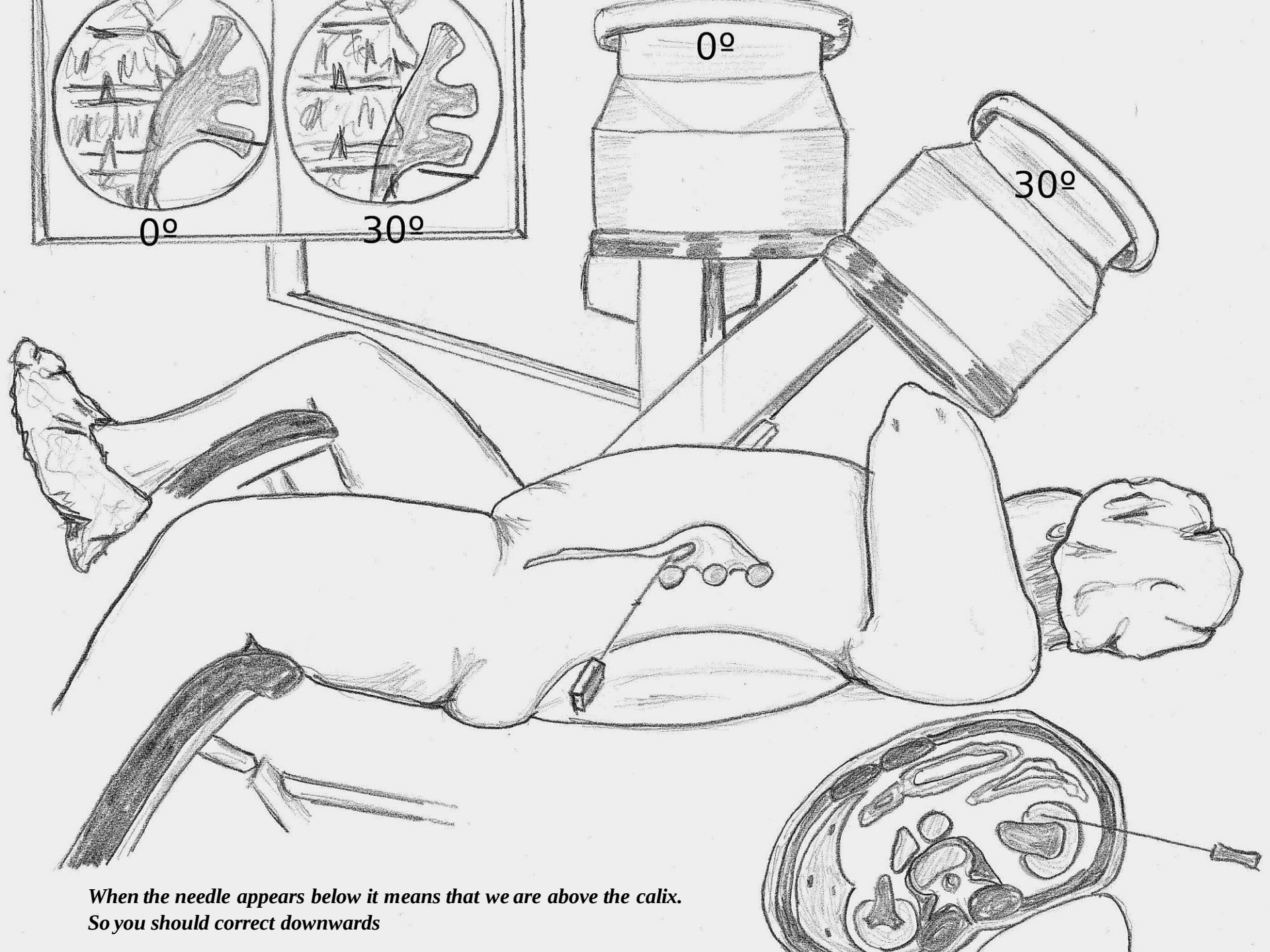
The bag will be very full and the patient more sideways if we had to enter through a posterior calyx, and with less air and the patient practically in supine position if we have a very accessible anterior calyx.

We have tried to replace the irrigation bag by other devices but we have always come back to the original.

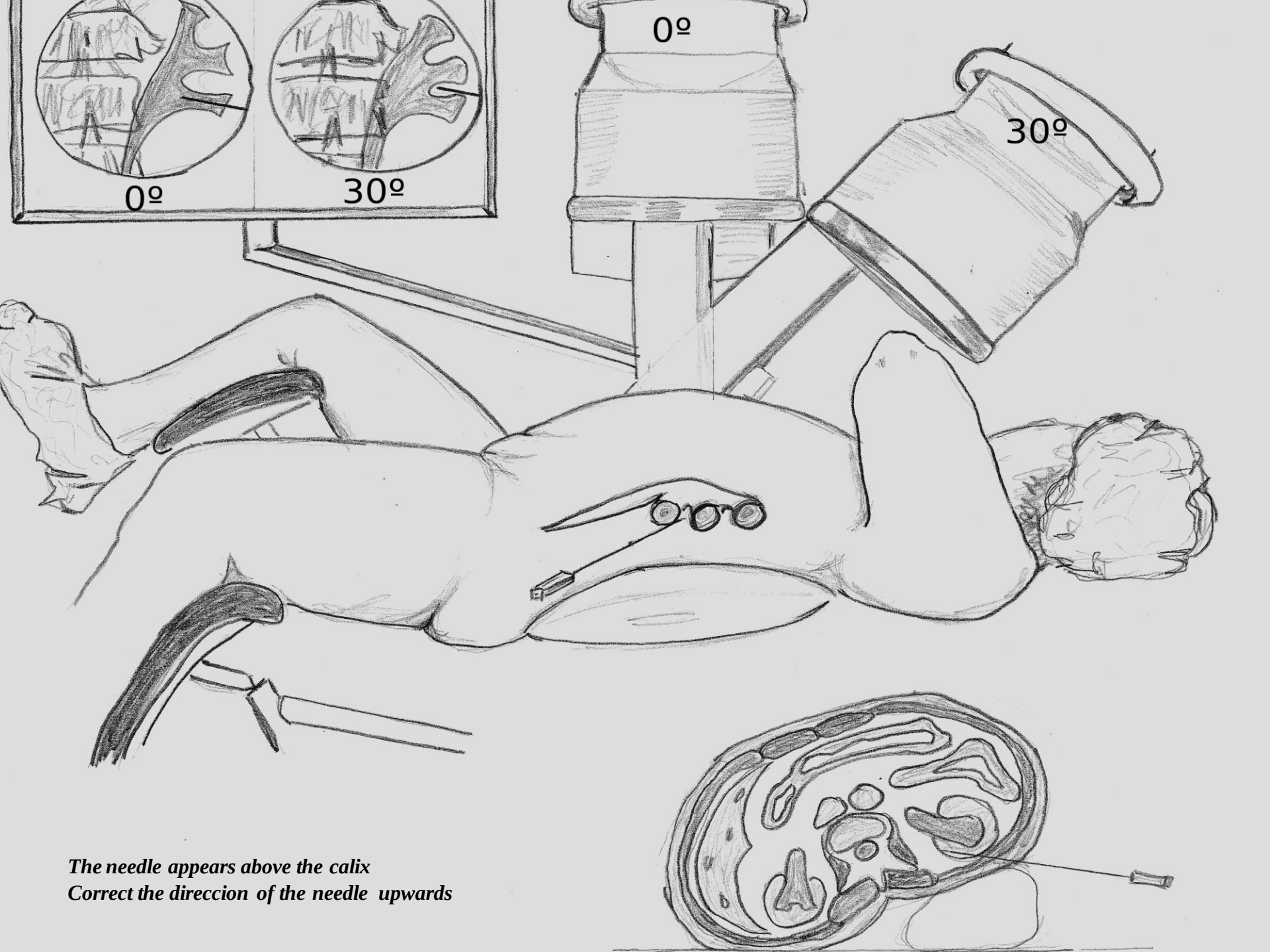
Vision of the patient in the Galdakao position seen from the transurethral access point.

Clearly useful in ureteroscopies in which the need for a nephrostomy or a reconversion to percutaneous renal surgery is foreseen.

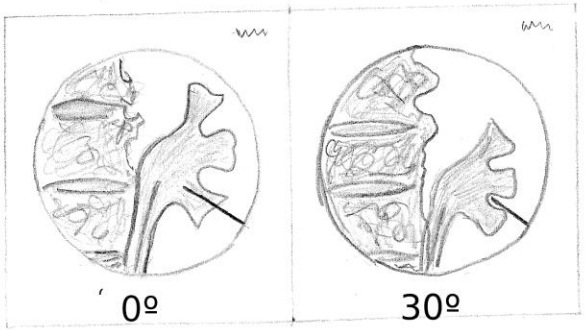




When the needle appears below it means that we are above the calix.
So you should correct downwards



The needle appears above the calix
Correct the direccion of the needle upwards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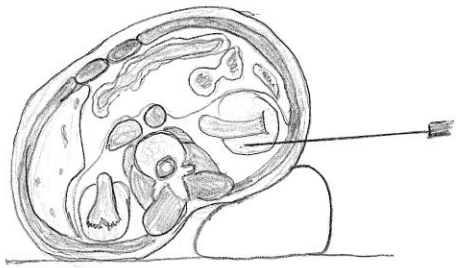

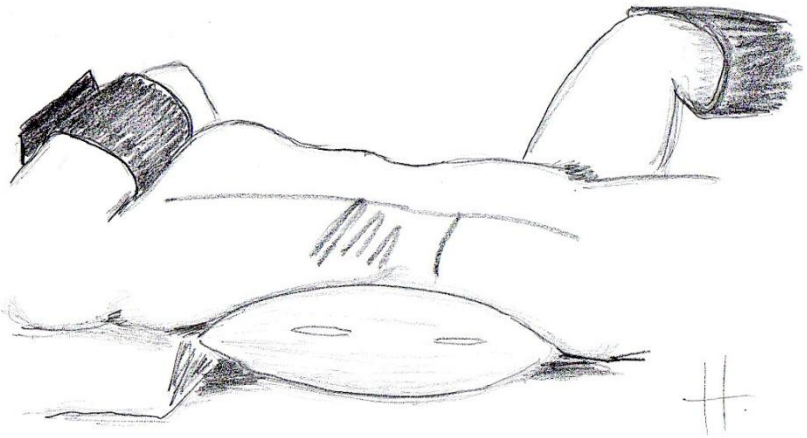

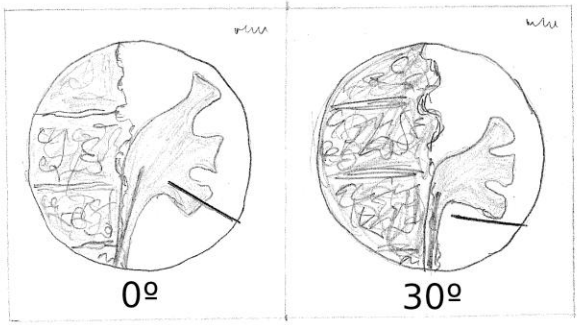
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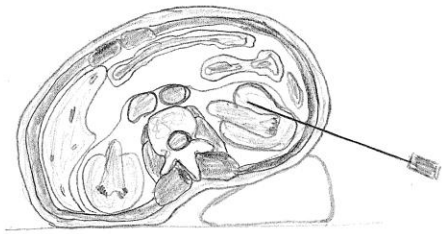

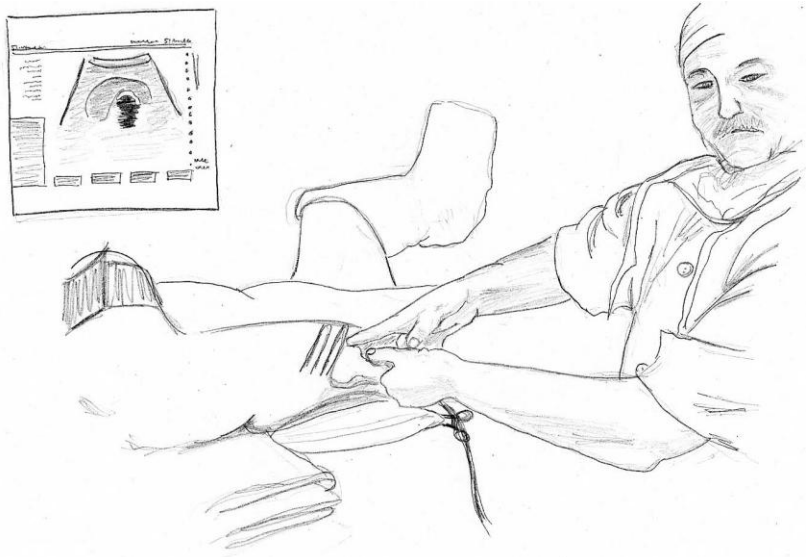

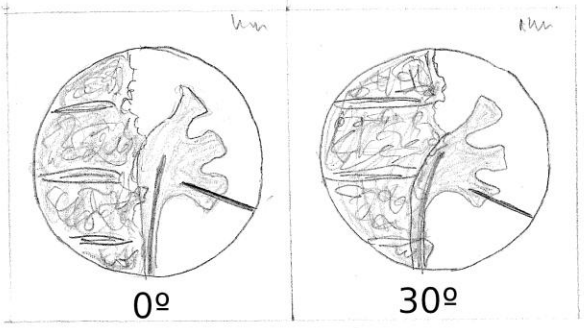
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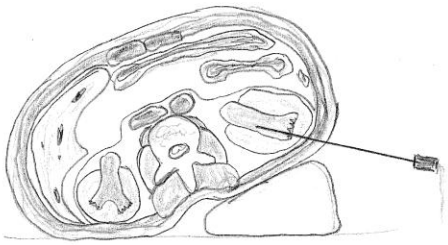
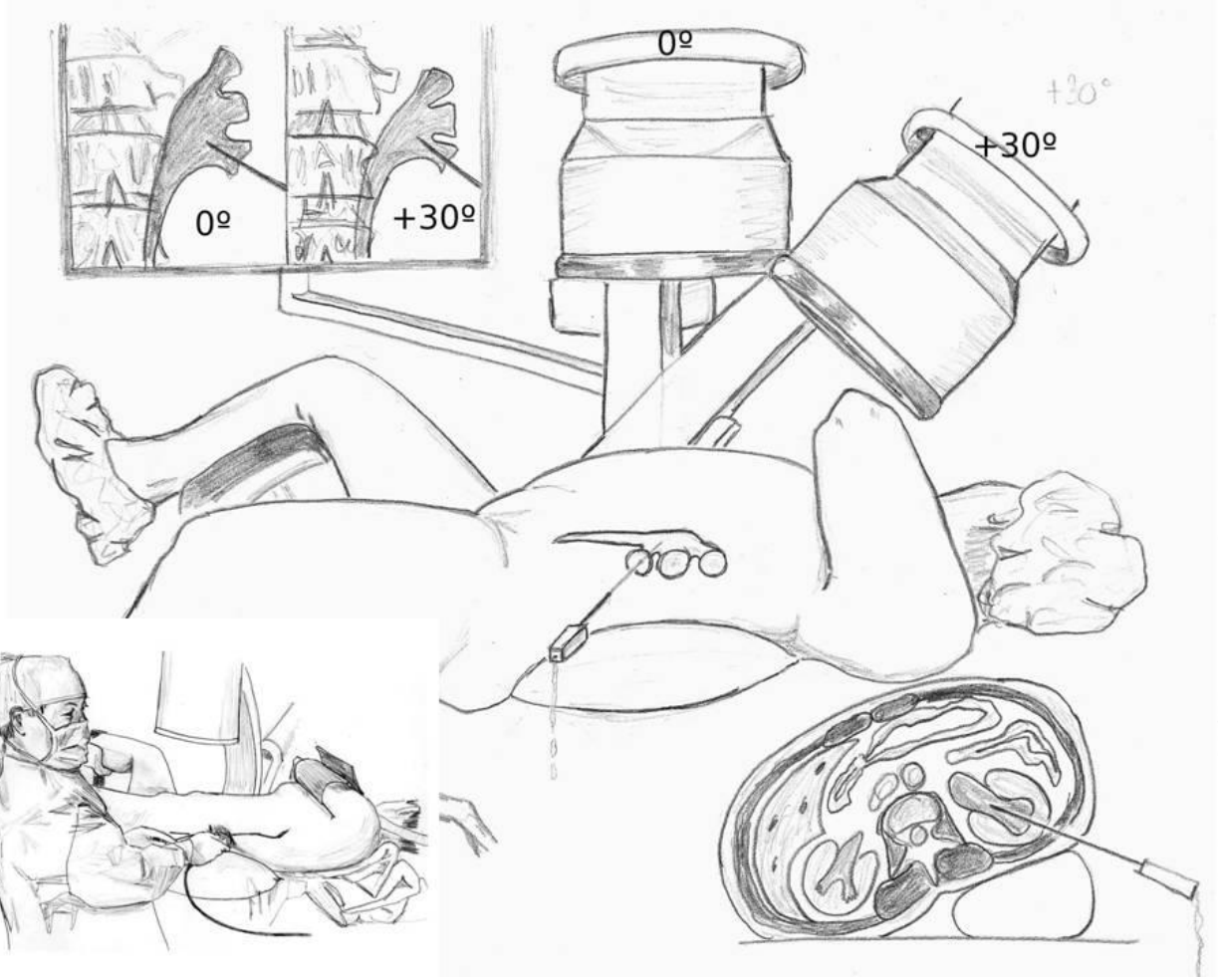
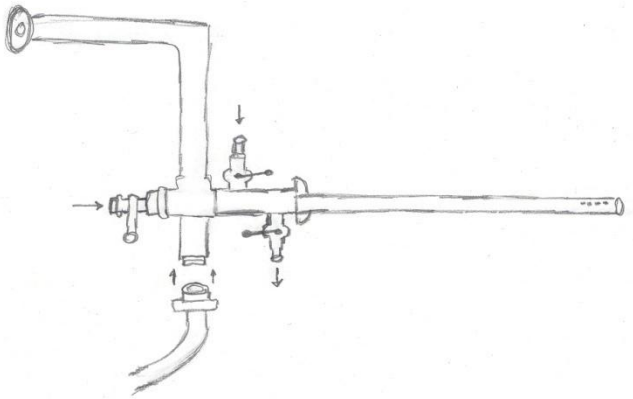
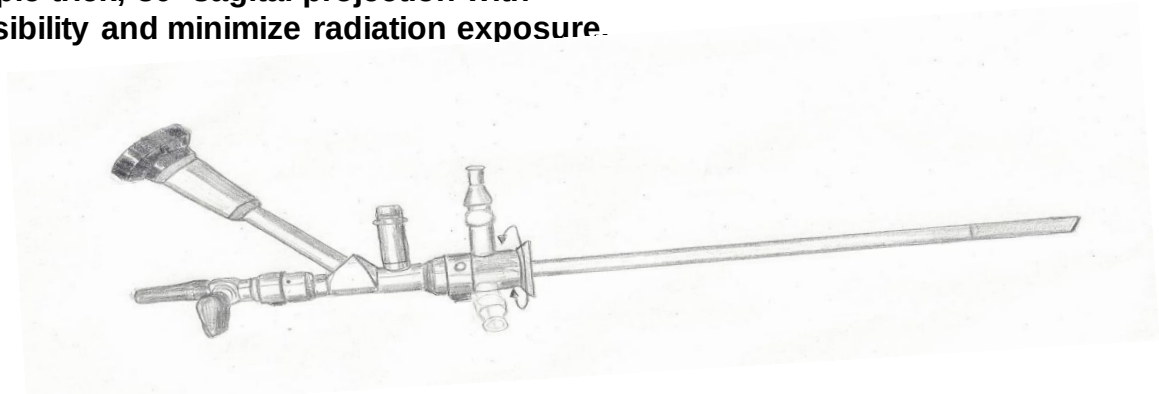


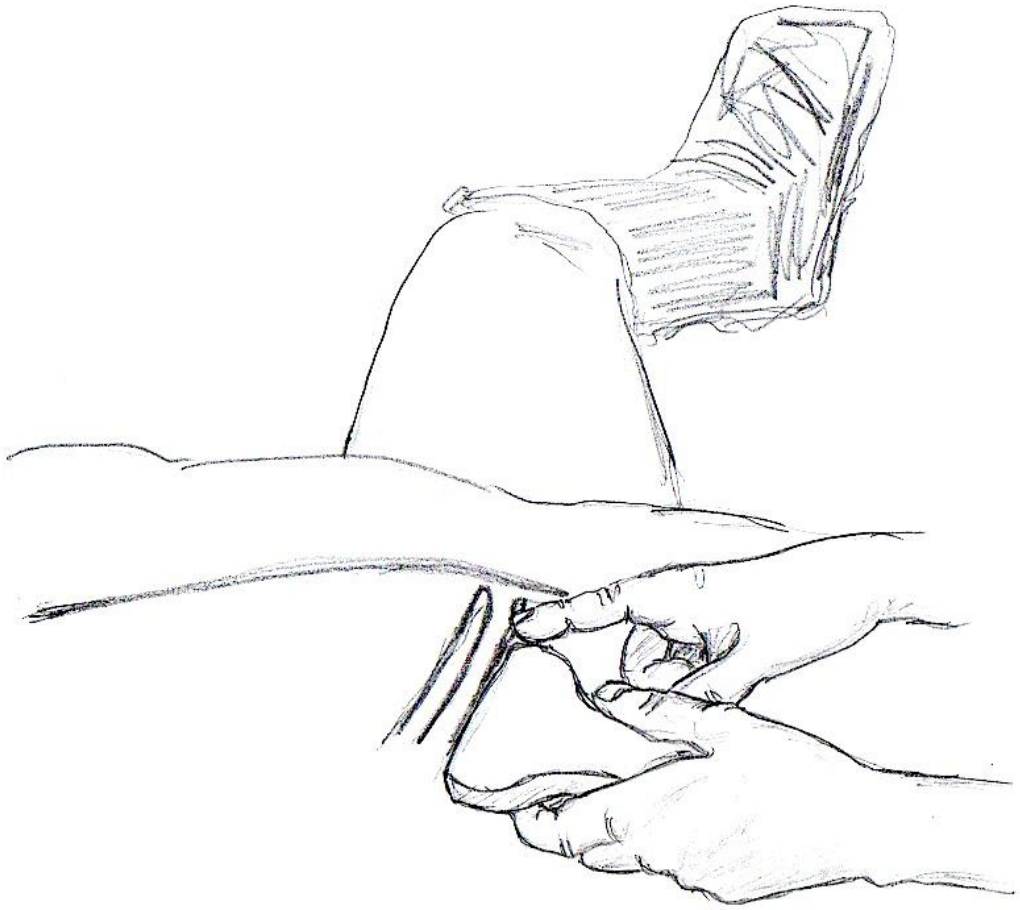


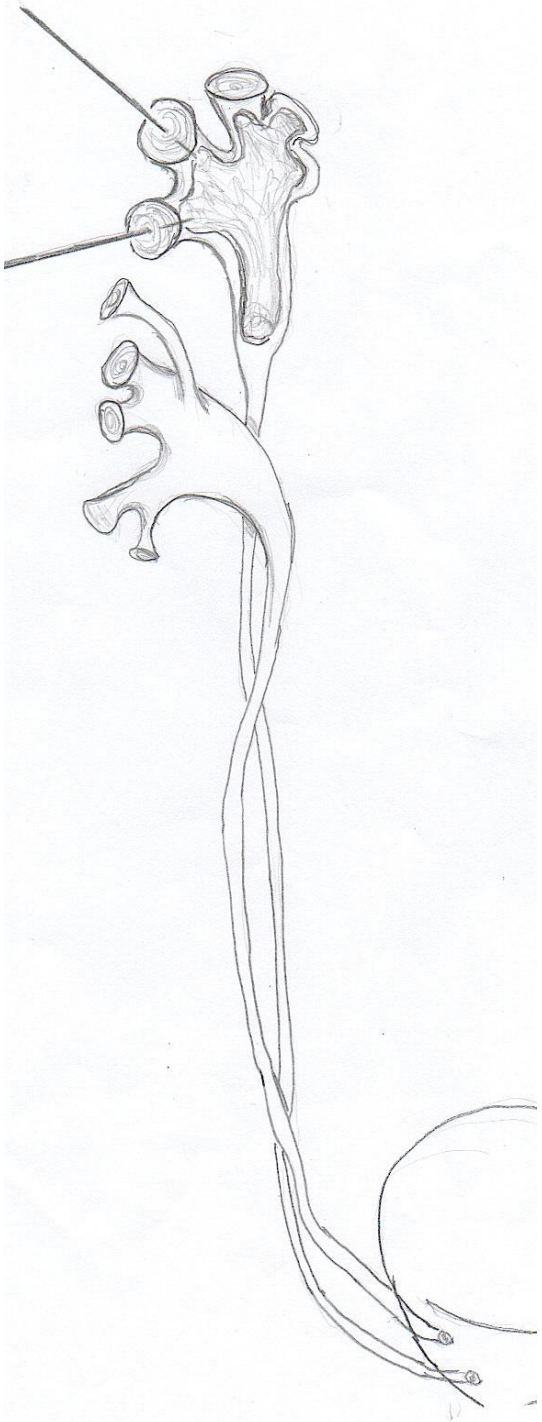
In this type of surgery all details have to be taken care of: suitable nephroscopes, ergonomically leg holders which do not protrude laterally too much, etc.
But what is critically important is a correct positioning of the patient, not starting the procedure until one feels reasonably comfortable and having explored the possible access with ultrasound and X ray



The Perfect Punction Technic. The ultrasound exploration and puncture, complemented with the fluoroscopic trick, 30º sagital projection with the C- arm, simplify, increase feasibility and minimize radiation exposure.

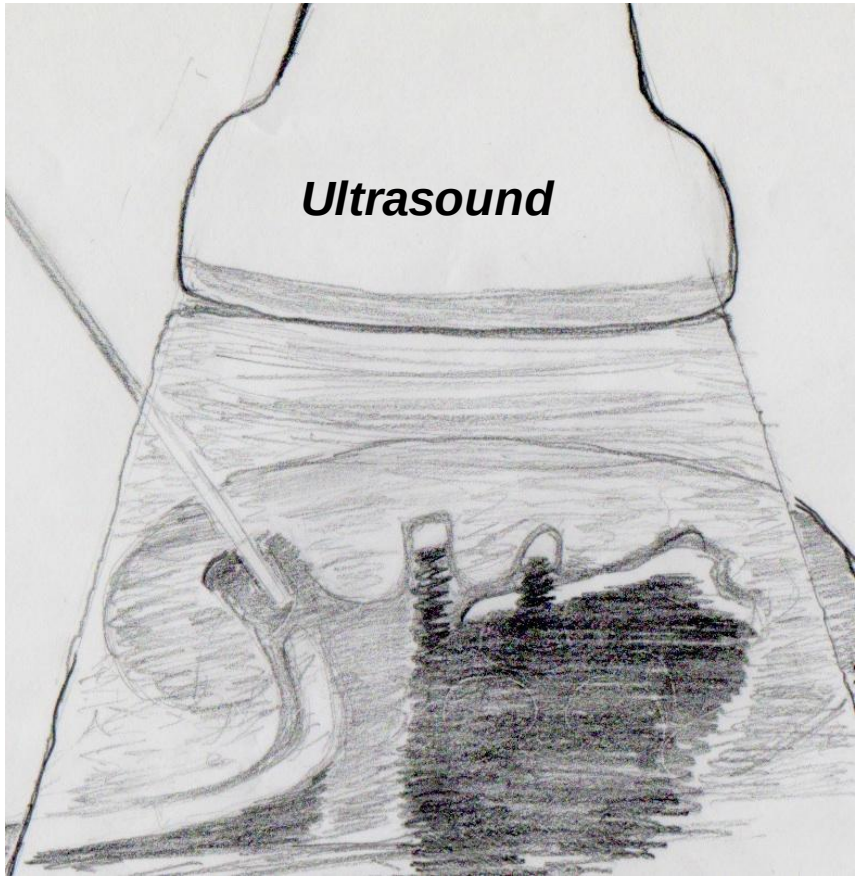




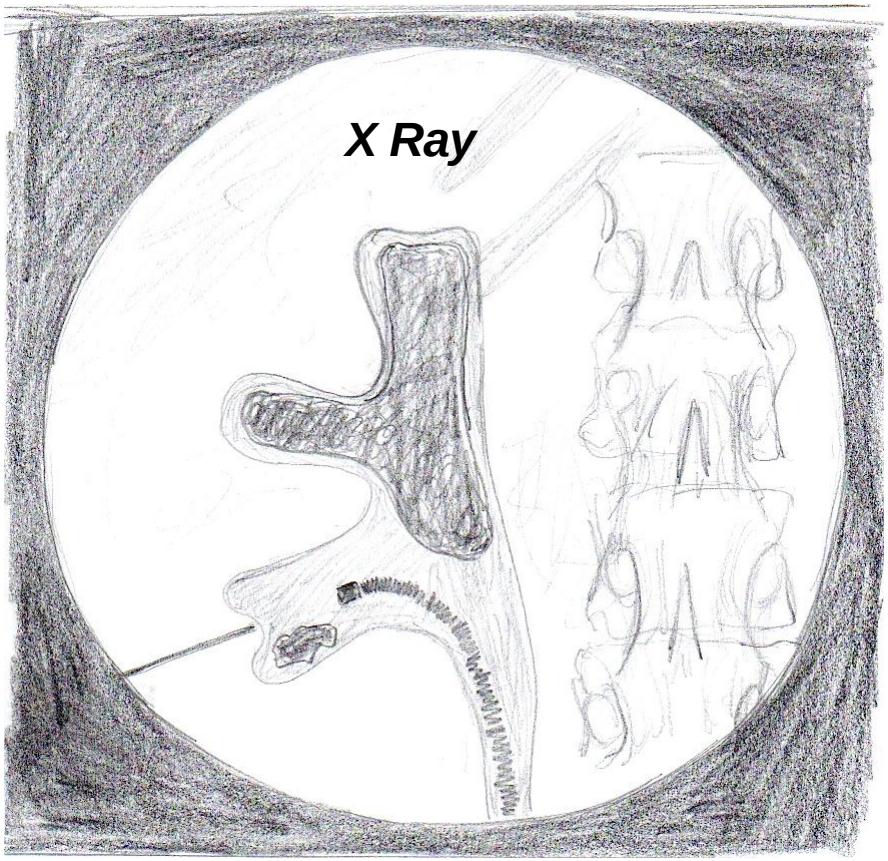


Upper calix punction

Intercostal approach



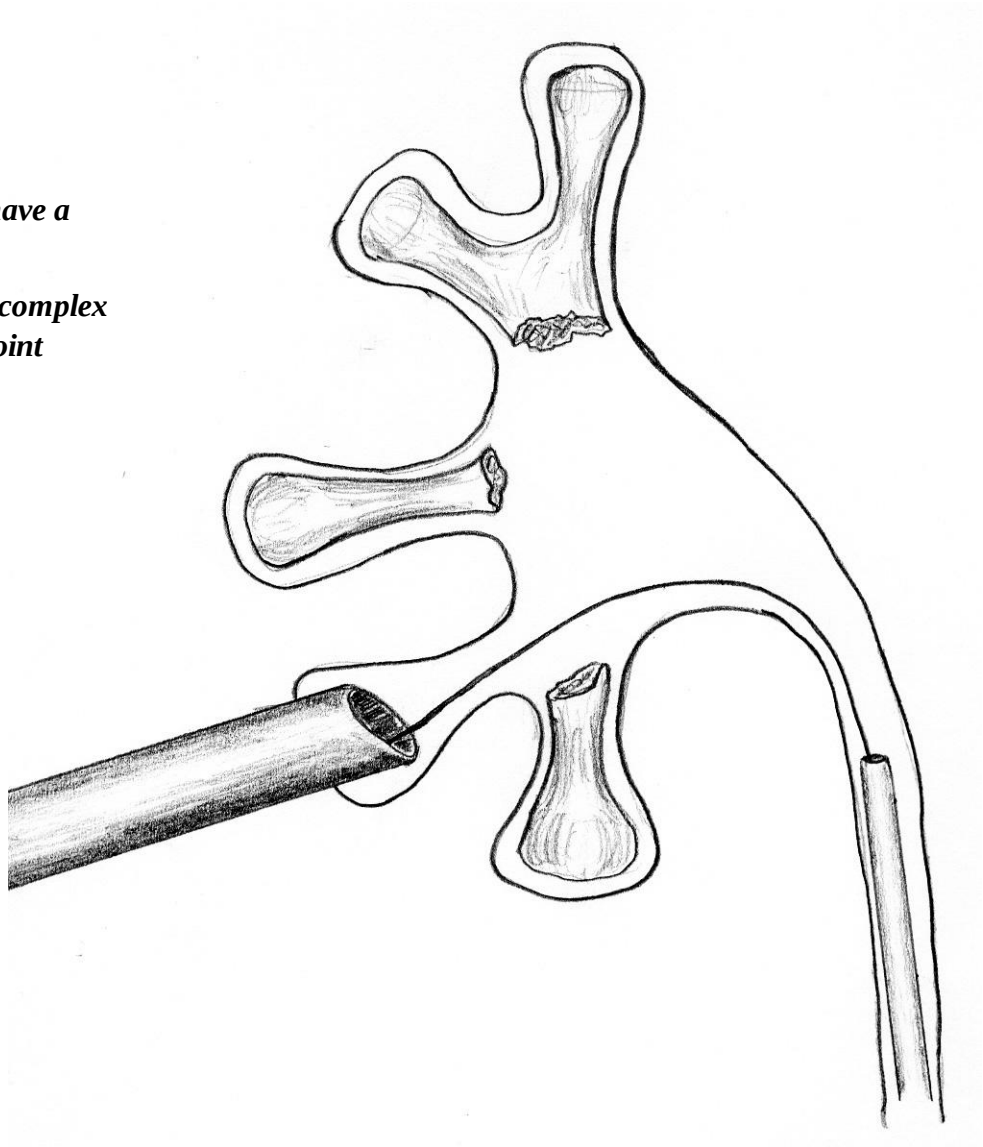
Endovision puncture



Thread the patient

The safest setup for the practice of endourology is to have a guide exiting from both the skin and the urethra.

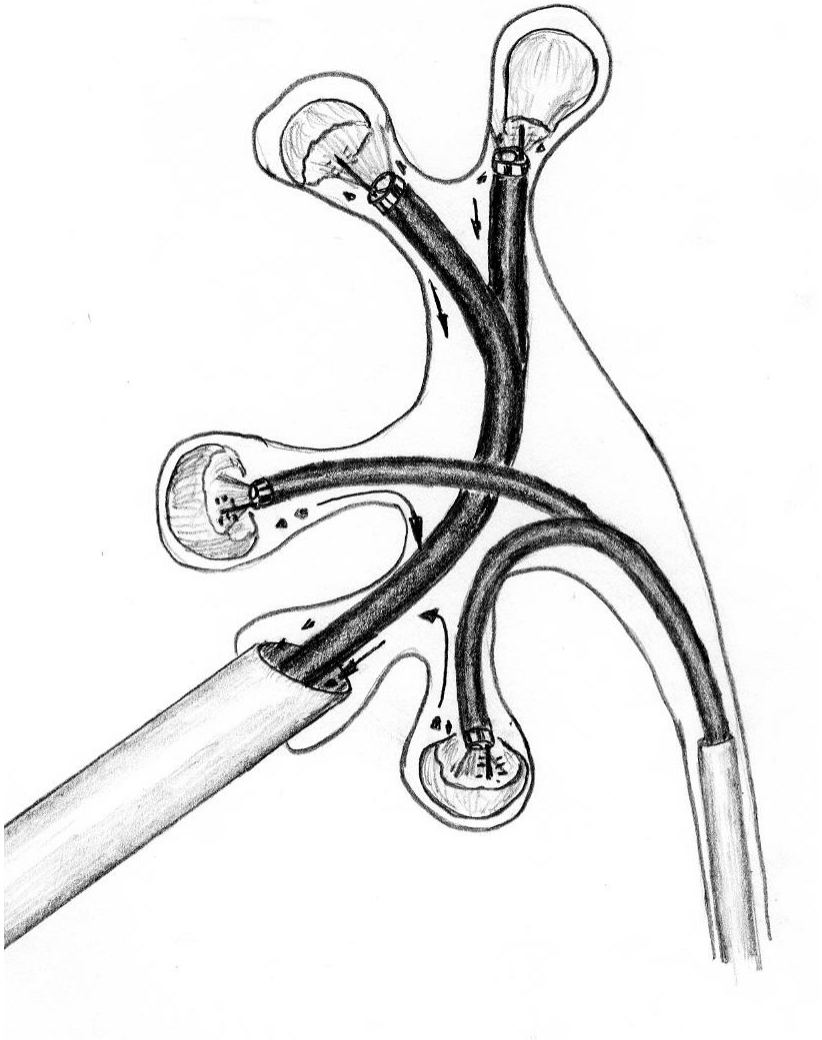
This technique is especially useful in the treatment of complex renal lithiasis through just one percutaneous access point through the lower renal calix.

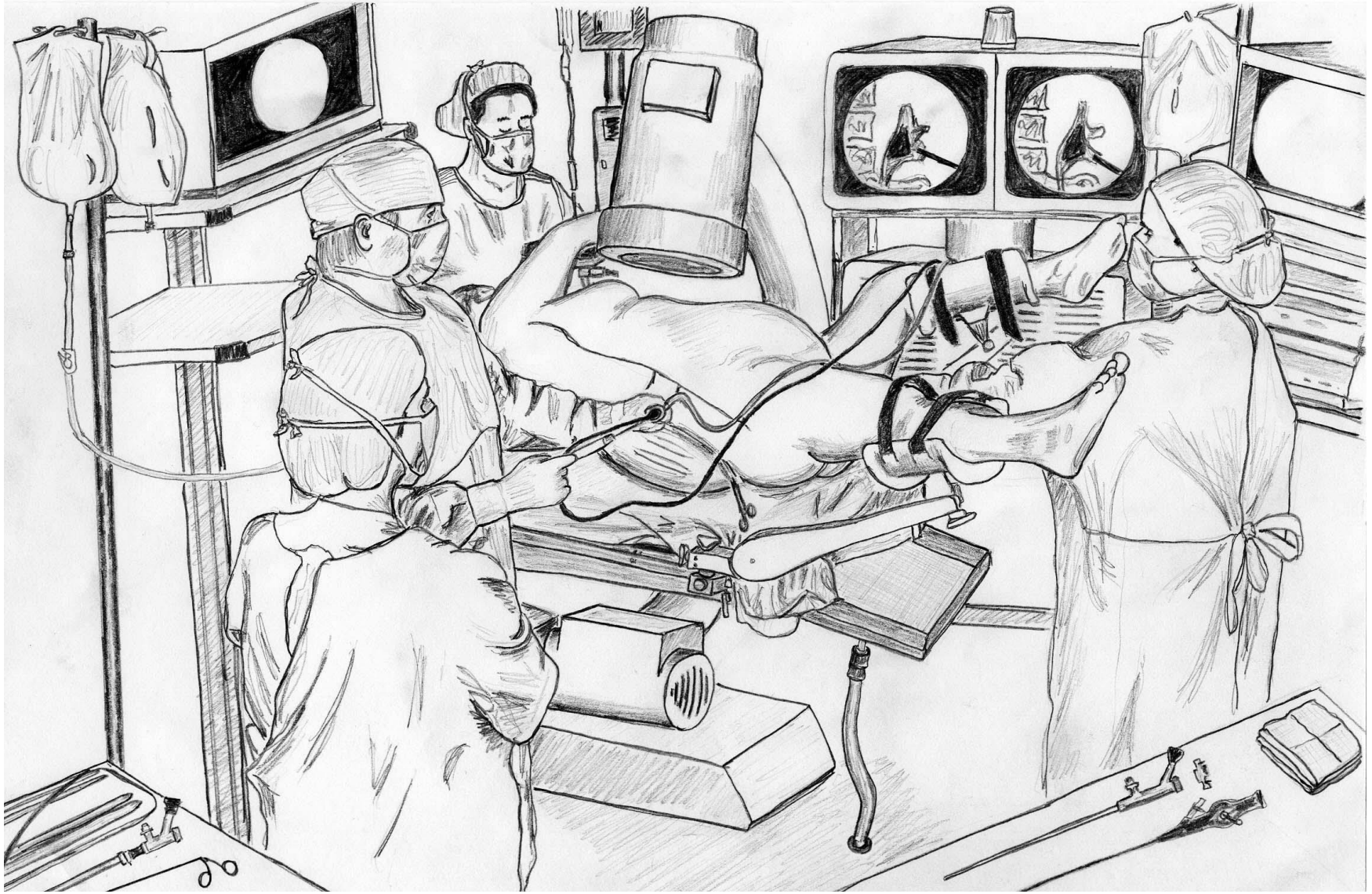


With flexible instrumentation and Holium laser access to all parts of the urinary tract is possible.

The Amplatz and urethral access sheaths allow us to work at low pressures.

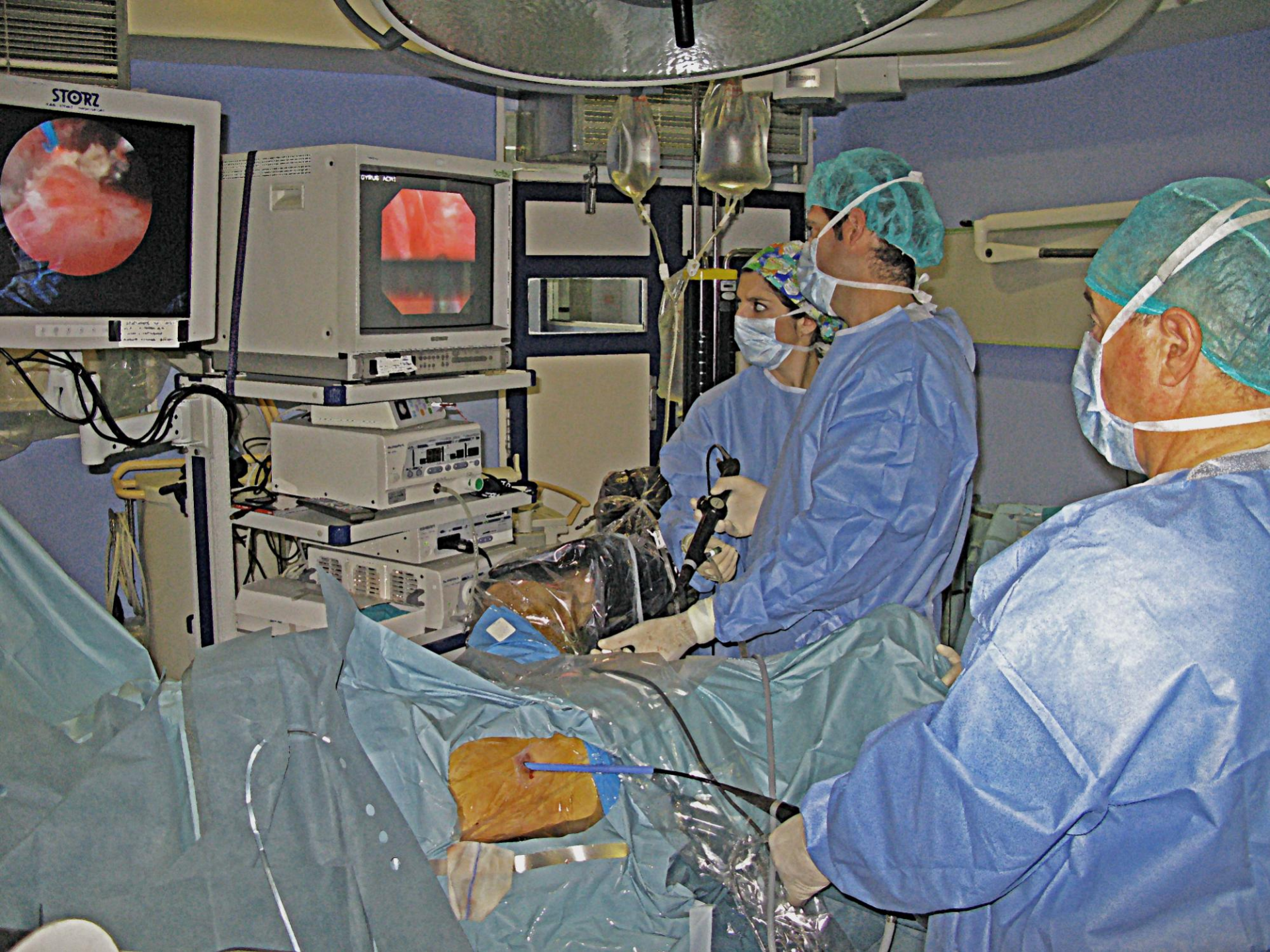
Irrigation fluid pumps must be used to stretch the urinary tract, improve vision and wash of fragments.





General perspective of a complex endourological intervention.

- The anaesthetist at the head of the patient is the one who is going to appreciate the position.
- A nurse with two operative tables for PNL and URS.
- Two urologists working simultaneously through both tracts with two separate endoscopic equipments.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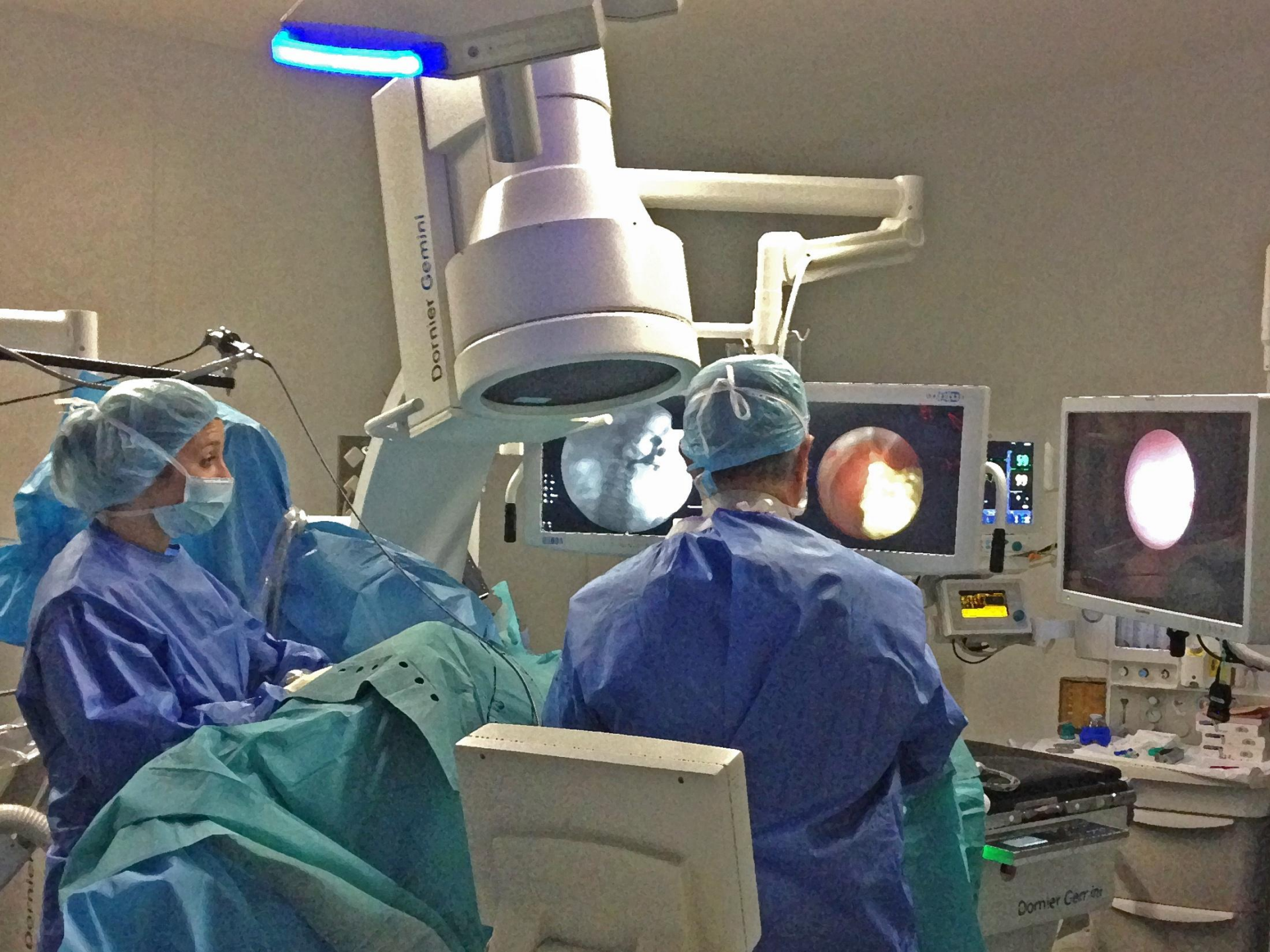
Dornier Gemini

Supine Percutaneous Nephrolithotomy and ECIRS

The New Way of Interpreting PNL

Cesare Marco Scoffone
András Hoznek
Cecilia Maria Cracco
Editors

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Supine Percutaneous

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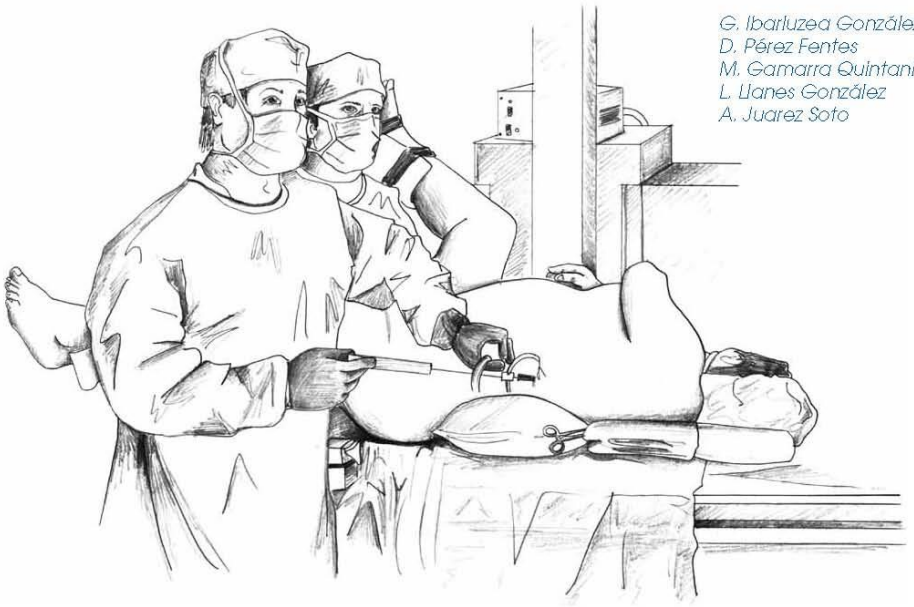

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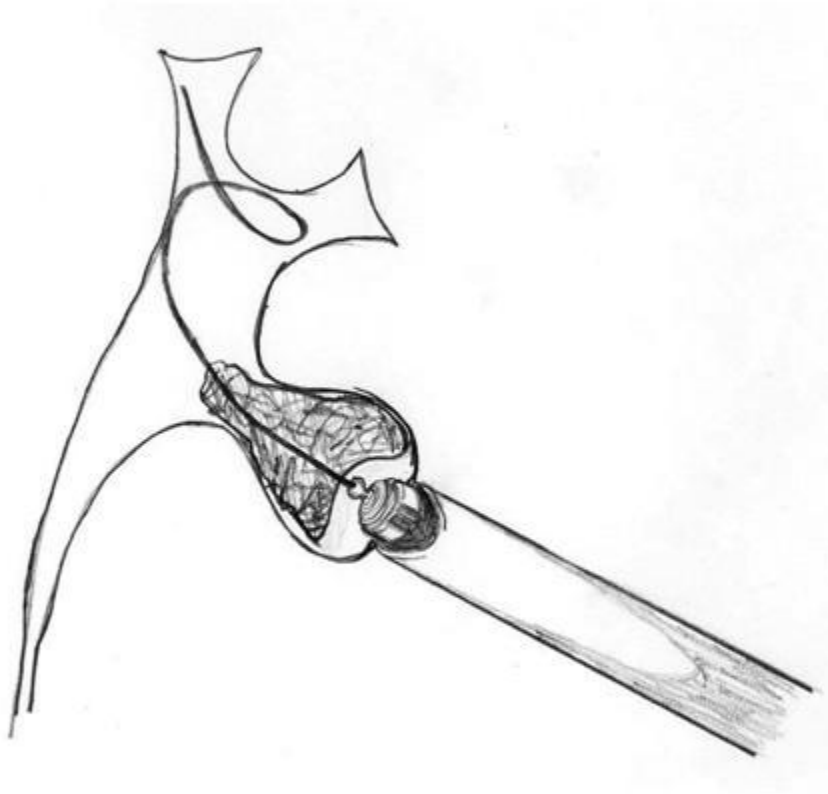
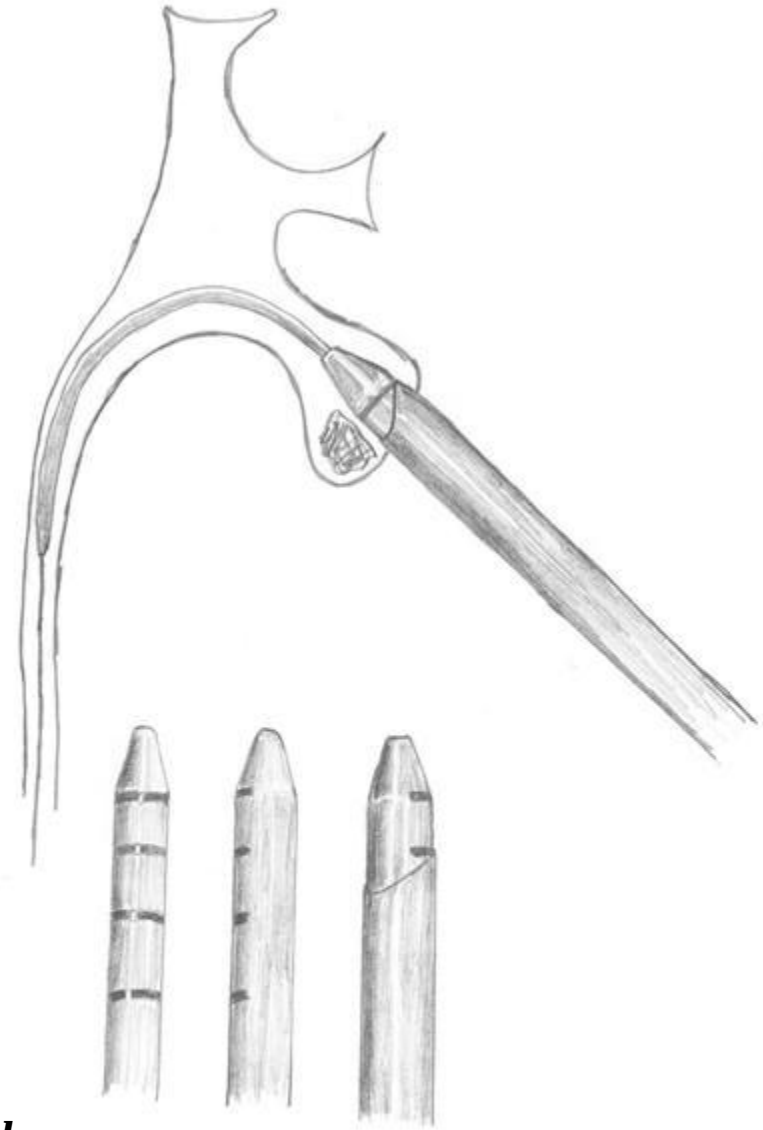
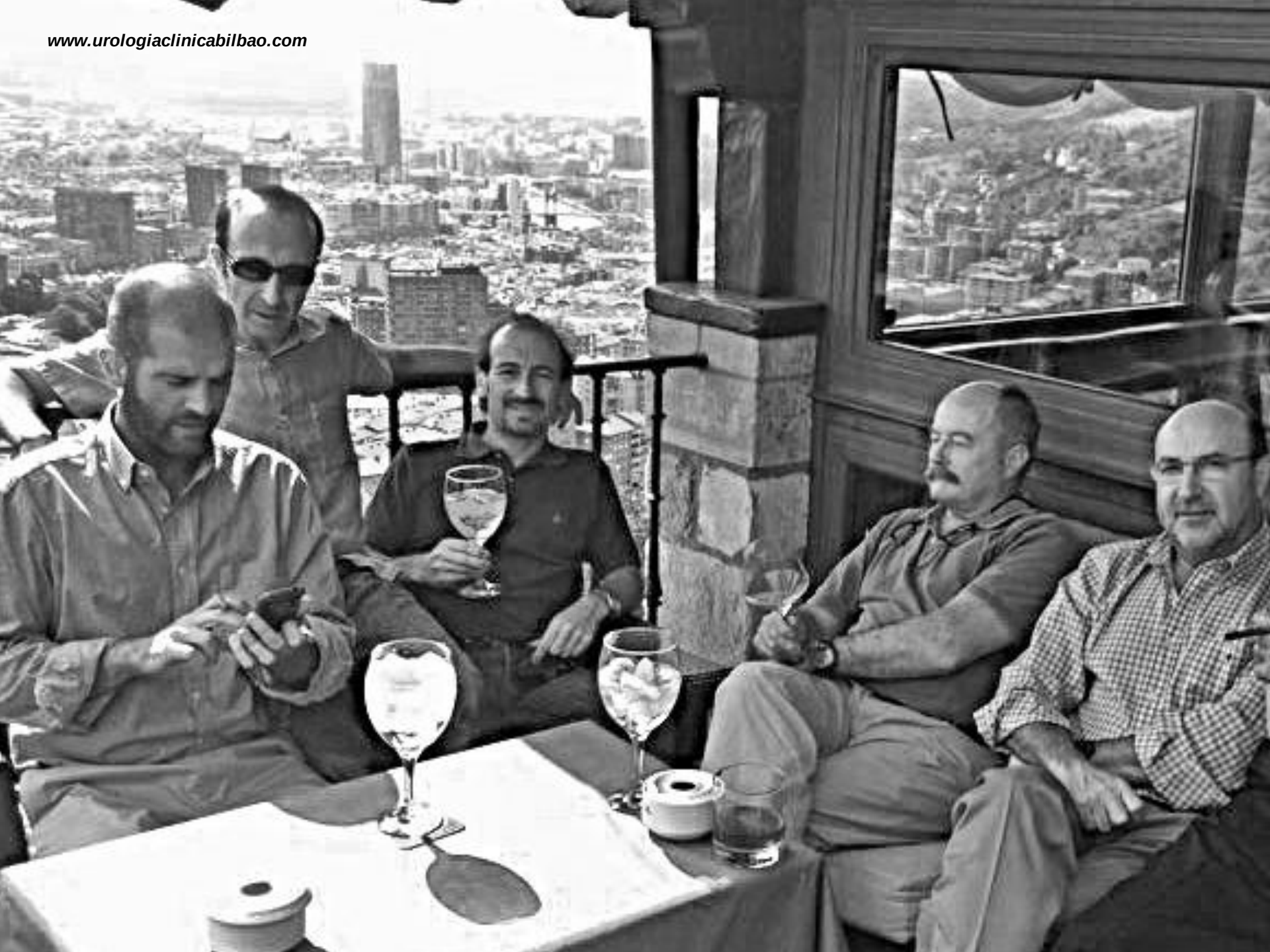




Drawings by :
Mikel Gamarra
Urologia Clinica Billbao
Galdakao Hospital Bizkaia

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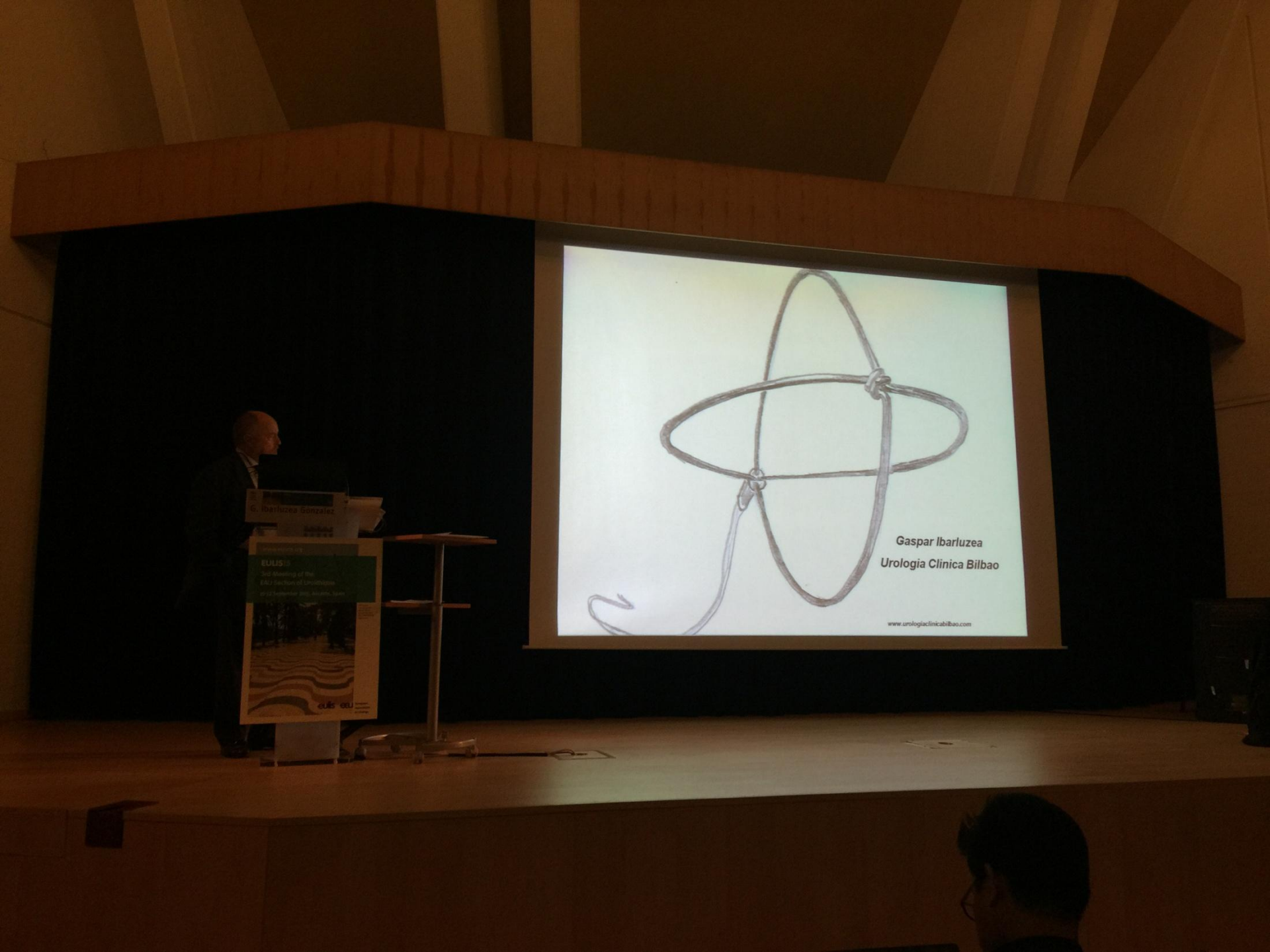
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Valdivia`s Supine PNL: An advantageous position
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One certain day, at the end of 1992, in a left kidney case, tired of so many complicated maneuvers, after placing the ureteral catheter, I had the idea of putting an air bag under the flank of the patient.
When exploring with the ultrasound I was surprised at how accessible the kidney and all the calyces were and it was so that I performed my first PCNL in the position described by Valdivia in 1987.
Anesthesiologists, nurses and all personnel involved were very happy having eliminated the complicated maneuvers
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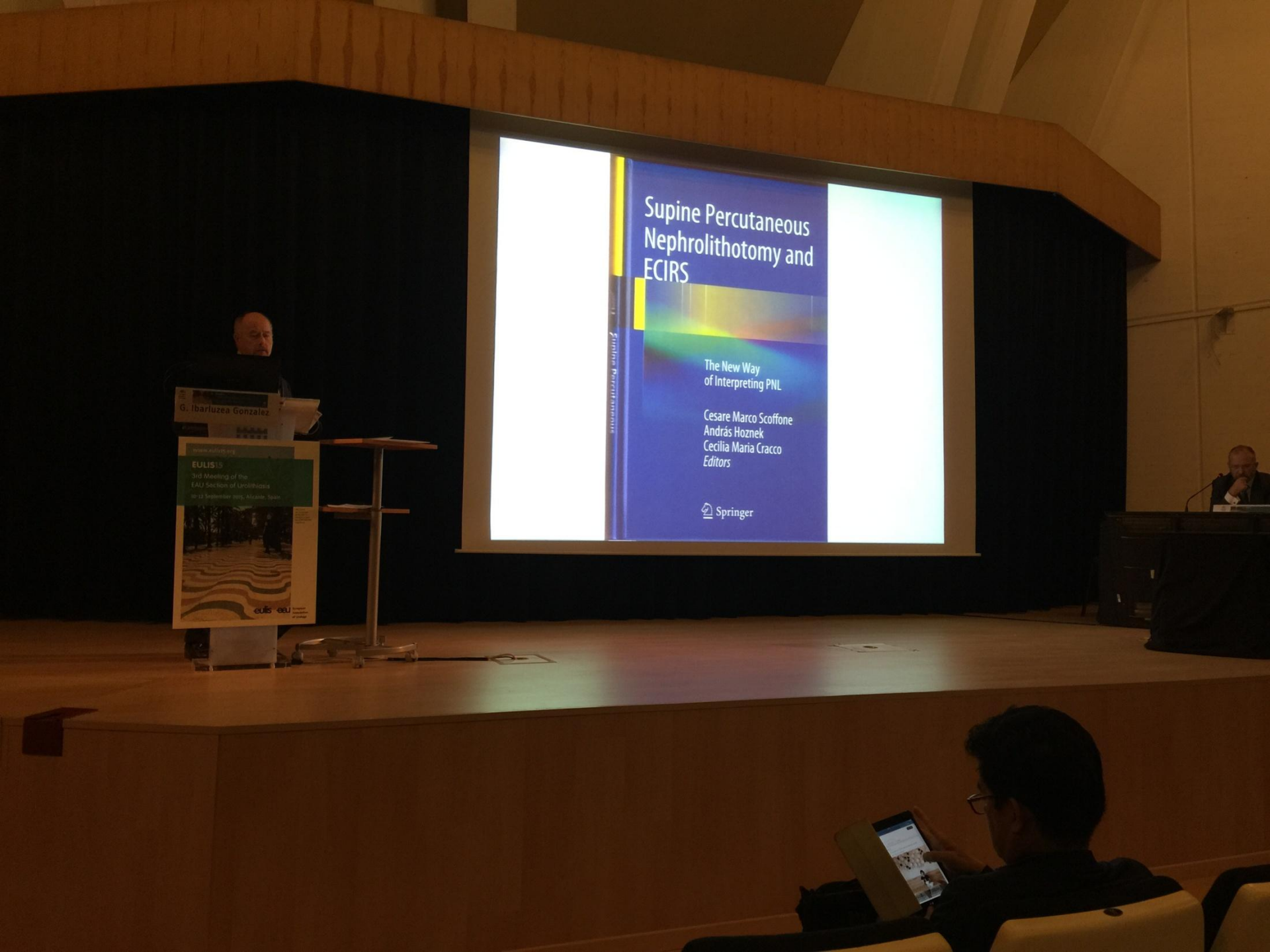
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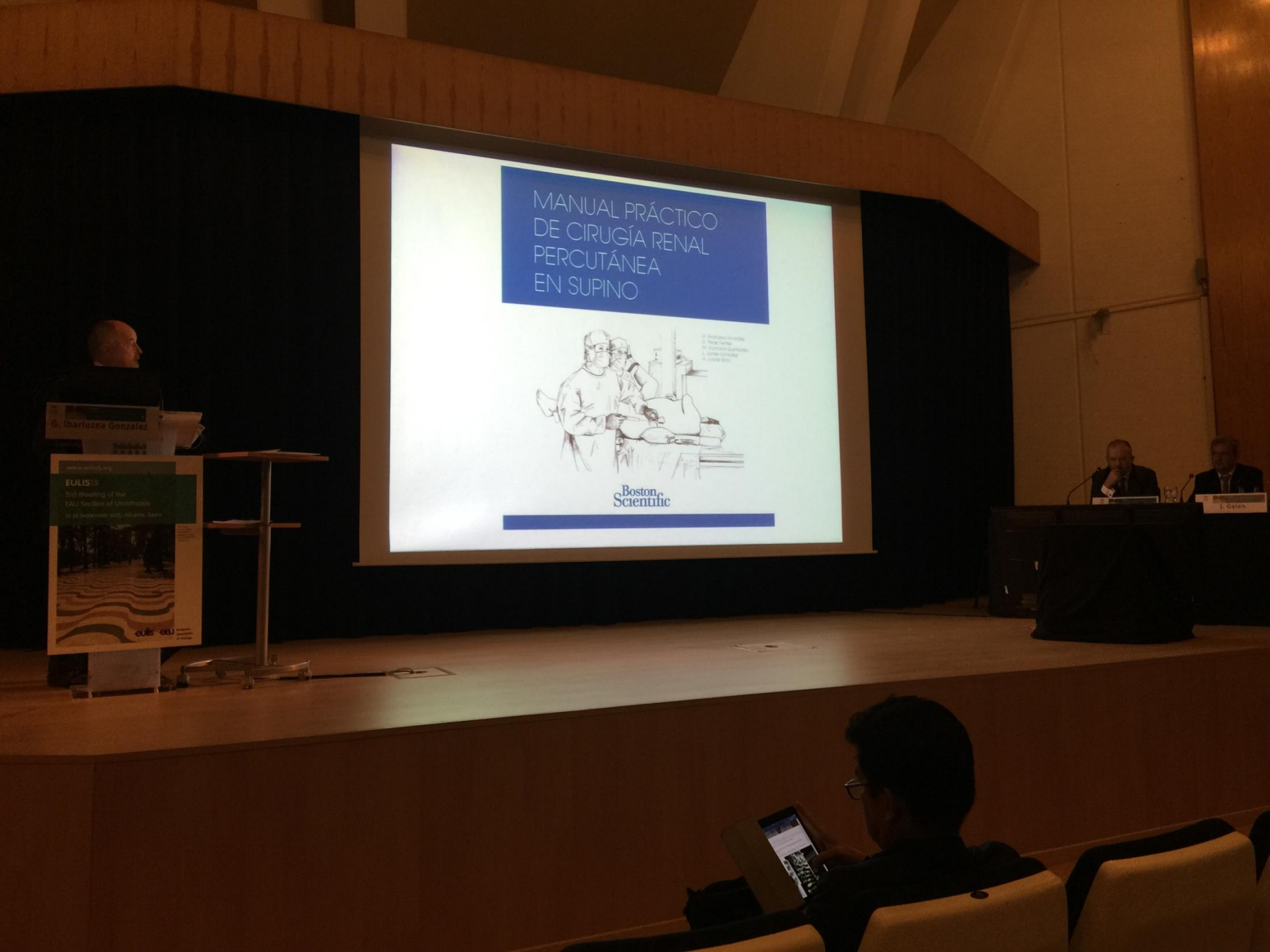
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