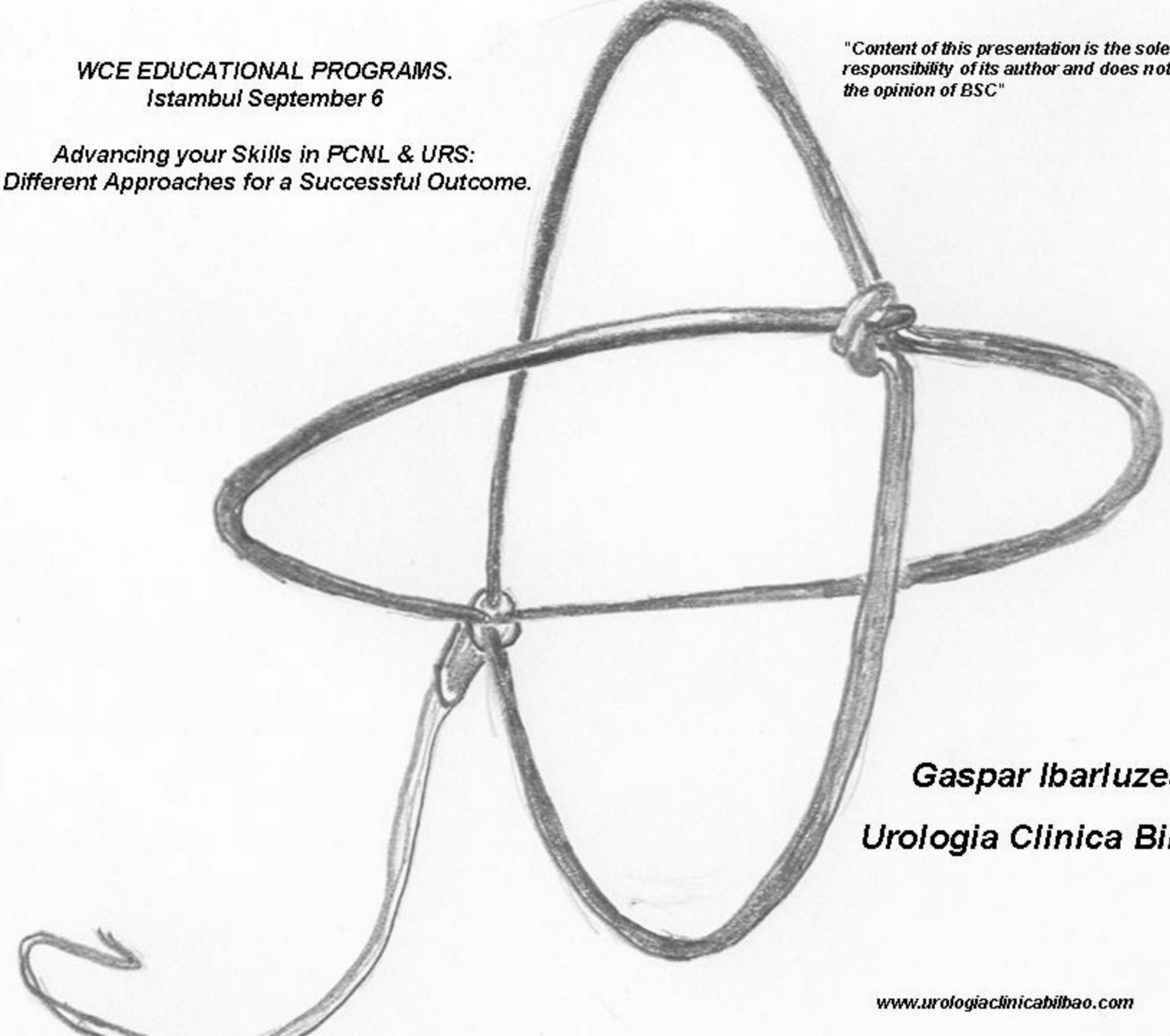
WCE EDUCATIONAL PROGRAMS.
Istambul September 6

Advancing your Skills in PCNL & URS: Different Approaches for a Successful Outcome.

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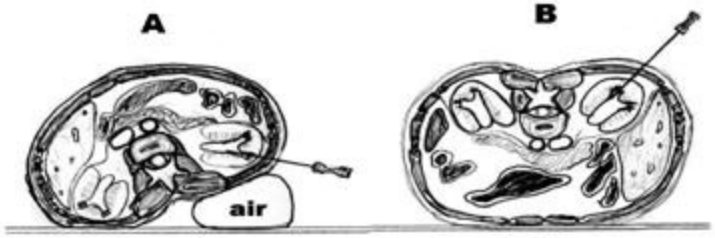
Gaspar Ibarluzea

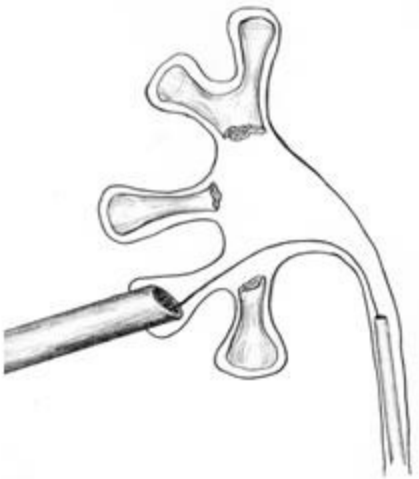
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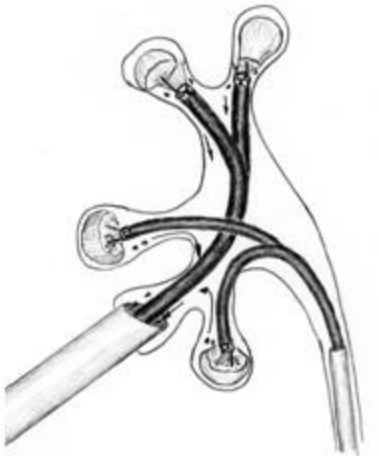
Supine PCNL. A different approach.

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





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Urologia Clinica Bilbao
Bizkaia, Basque Country
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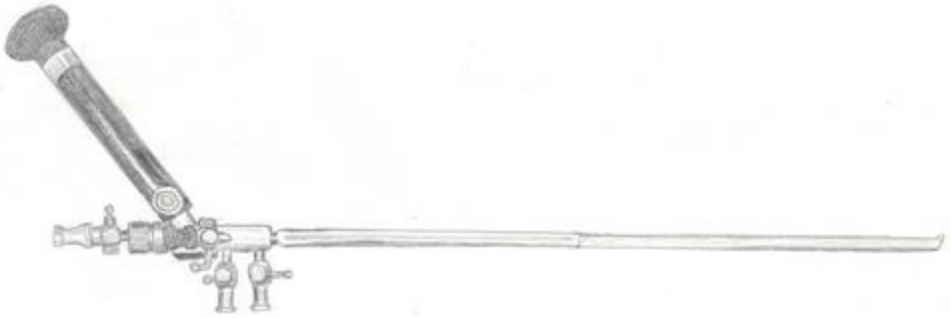


Endourology was born in the early 80's of last Century. Dr Peter Alken, in percutaneous renal surgery and Dr Enrique Perez Castro, in transurethral ureteroscopy were for our group the reference figures.

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:

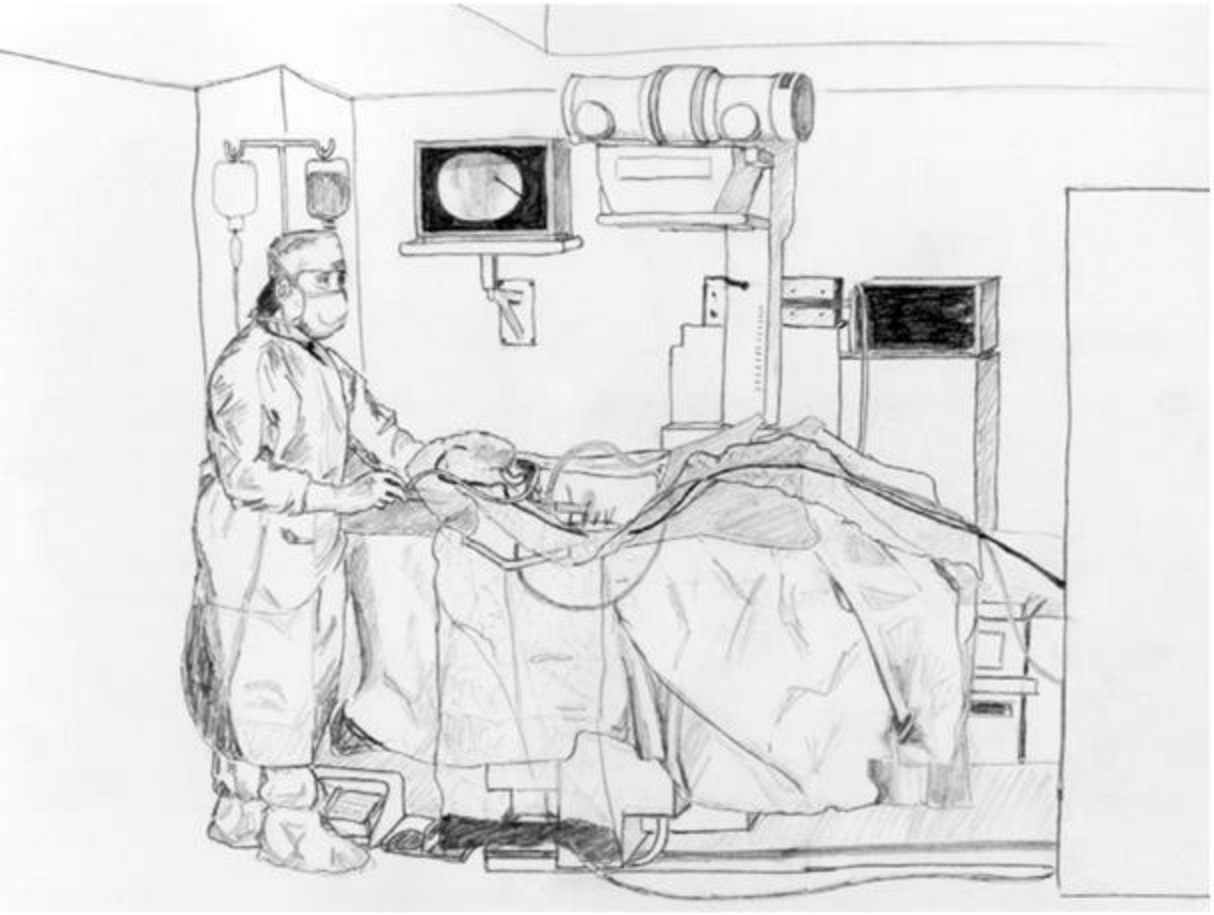
Percutaneous Renal Surgery. Wickham J.E.; Miller R.A. 1983

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.

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

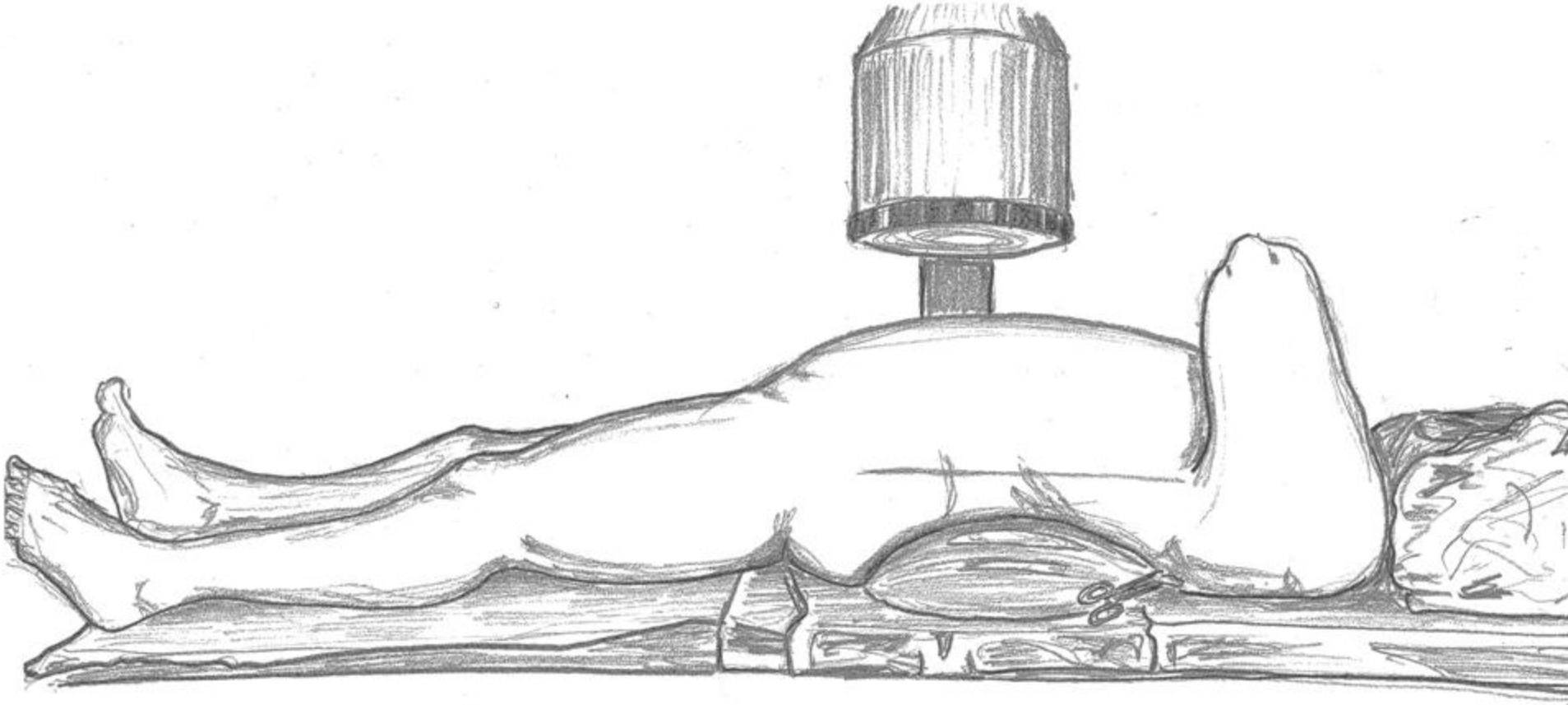


Our operating room exclusively for endourology, was an exact copy of the one that Dr Korth had in the Loretto Krankenhaus of Freiburg with a Philips radiological table specific for urology. This operating room gave us a great agility for our urological practice in all procedures where x-rays were needed,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

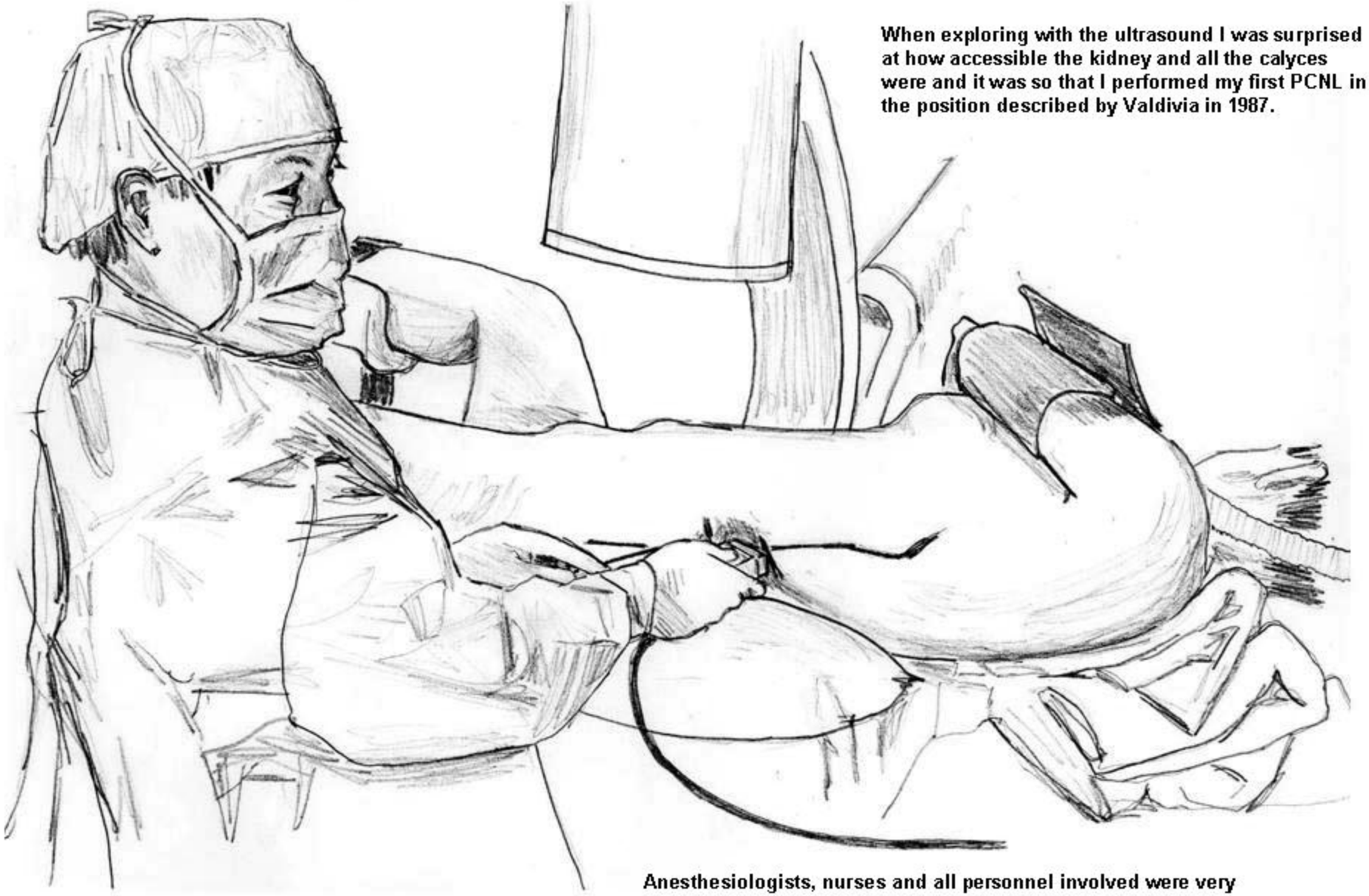
When the kidney was the left one it was much more complicated. We had to turn the patient around 180 degrees and then turn him over, all this to a patient with general anaesthesia with a catheter in place and in a relatively small operating room full of anaesthesia equipment and urology instruments.

Position described by Dr Gabriel Valdivia in 1987



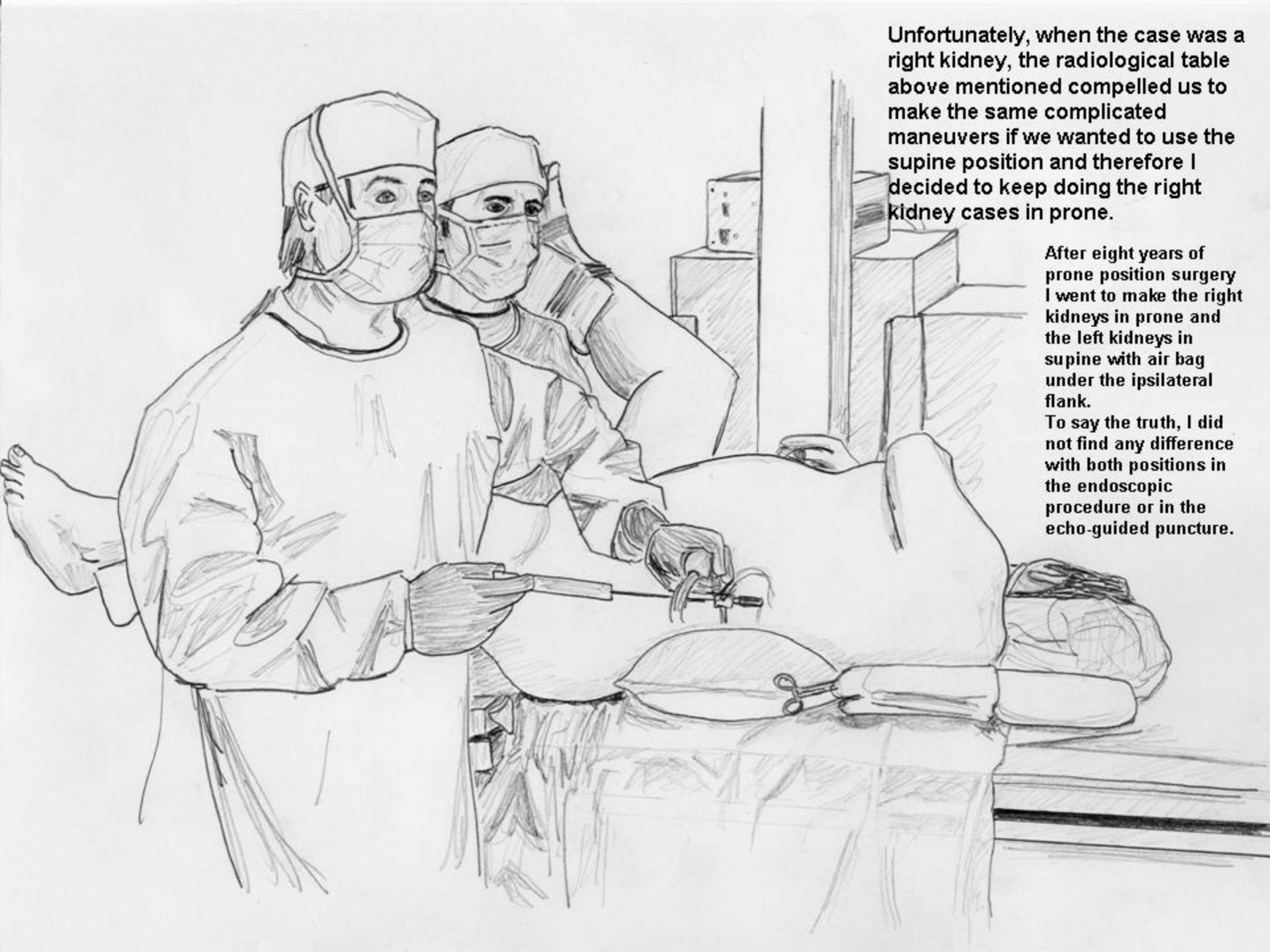
We started the percutaneous renal surgery in supine with the same protocol we have been using in prone. Lithotomy position, catheterize the ureter and then change the field placing the patient in Valdivia position and leaving the transurethral way with a perfusion of contrast and dye trought the catheter.

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.



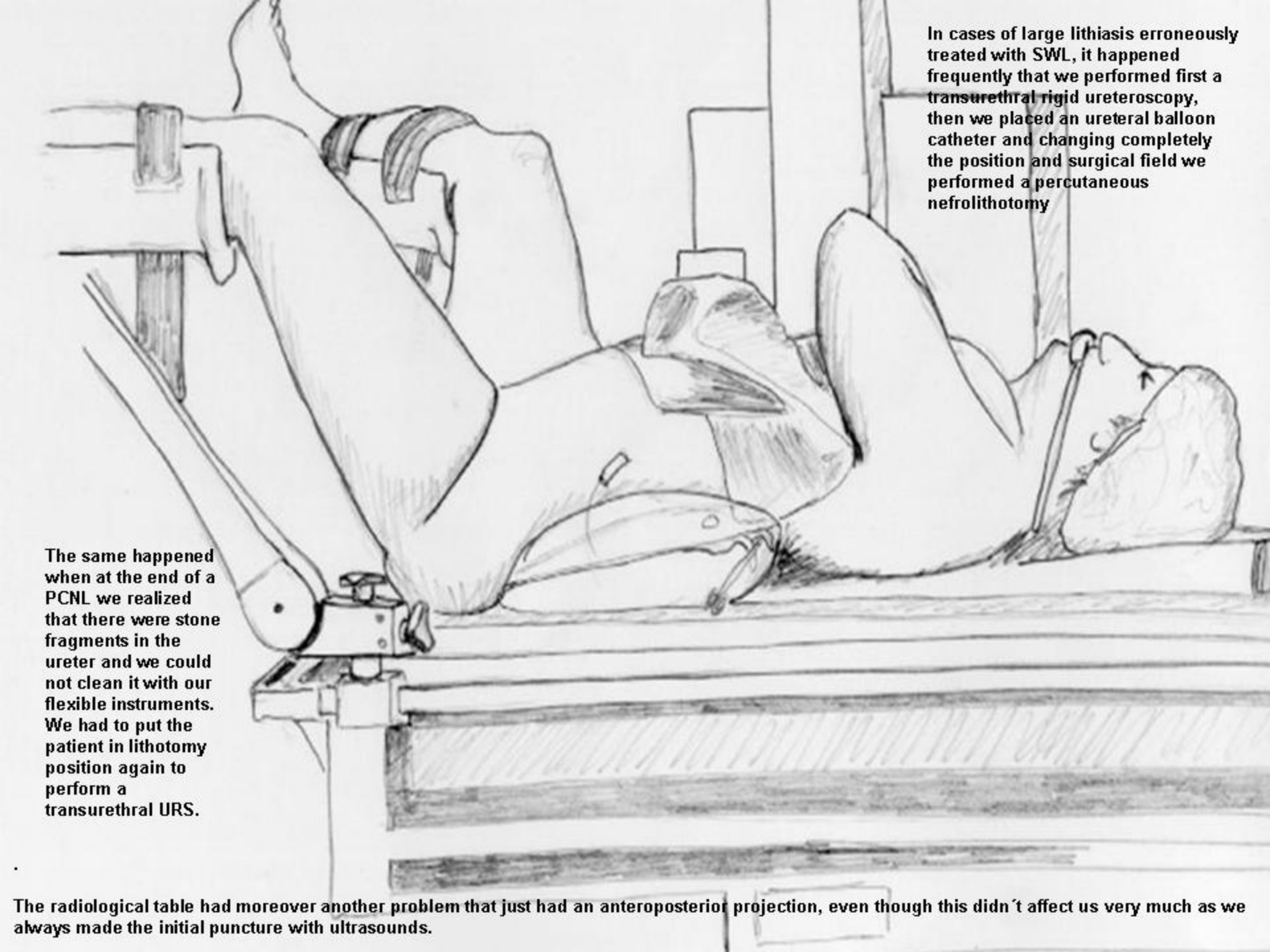
When exploring with the ultrasound I was surprised at how accessible the kidney and all the calyces were and it was so that I performed my first PCNL in the position described by Valdivia in 1987.

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



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.



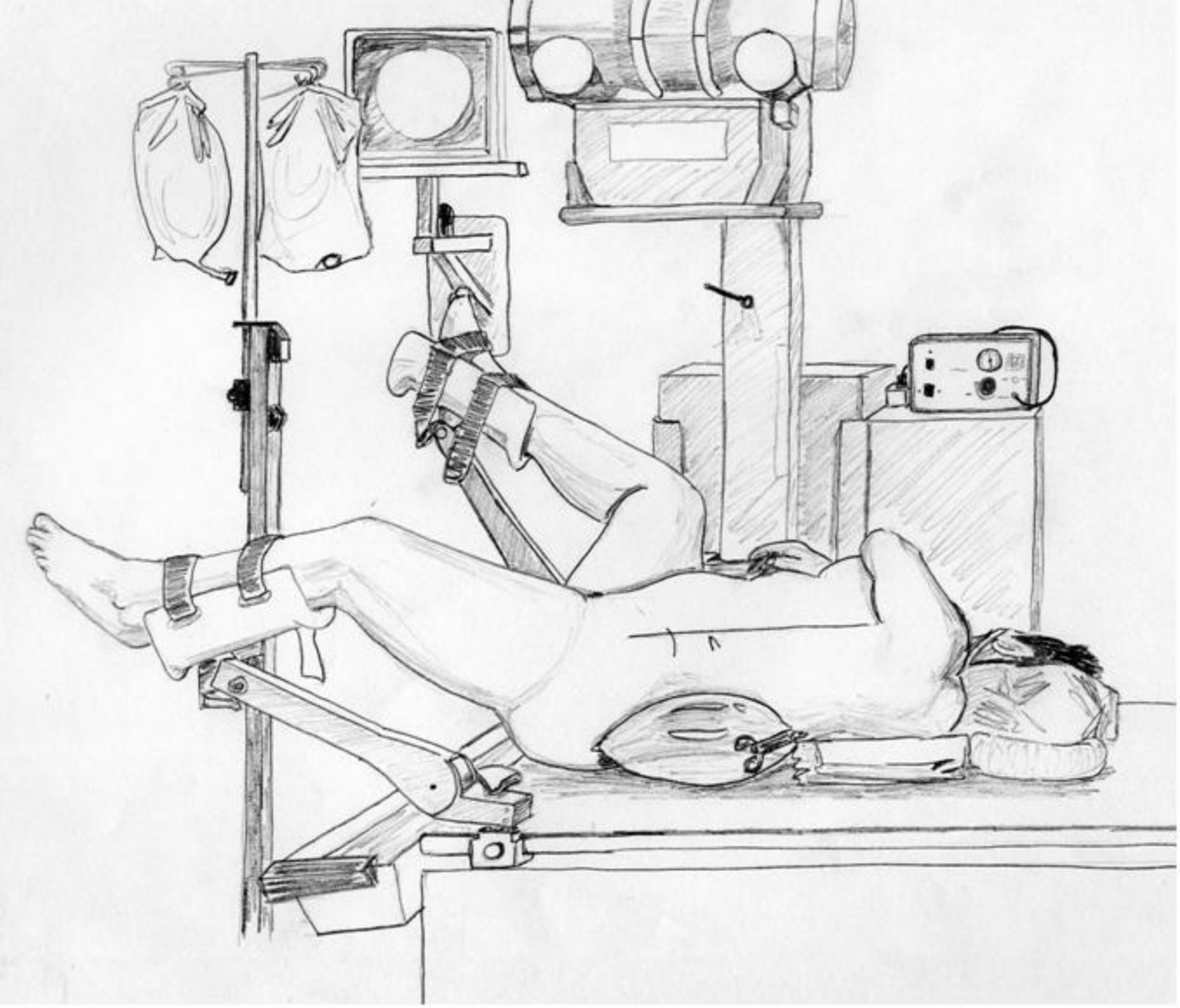
In cases of large lithiasis erroneously treated with SWL, it happened frequently that we performed first a transurethral rigid ureteroscopy, then we placed an ureteral balloon catheter and changing completely the position and surgical field we performed a percutaneous nefrolithotomy

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.

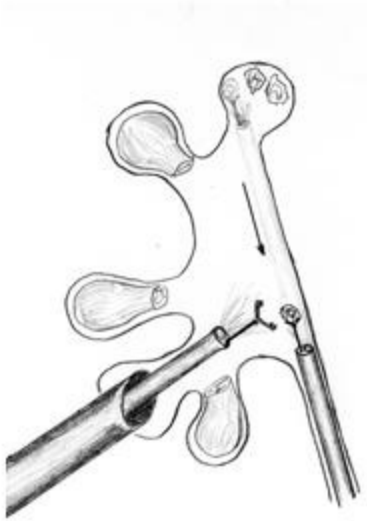
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The radiological table had moreover another problem that just had an anteroposterior projection, even though this didn´t affect us very much as we always made the initial puncture with ultrasounds.

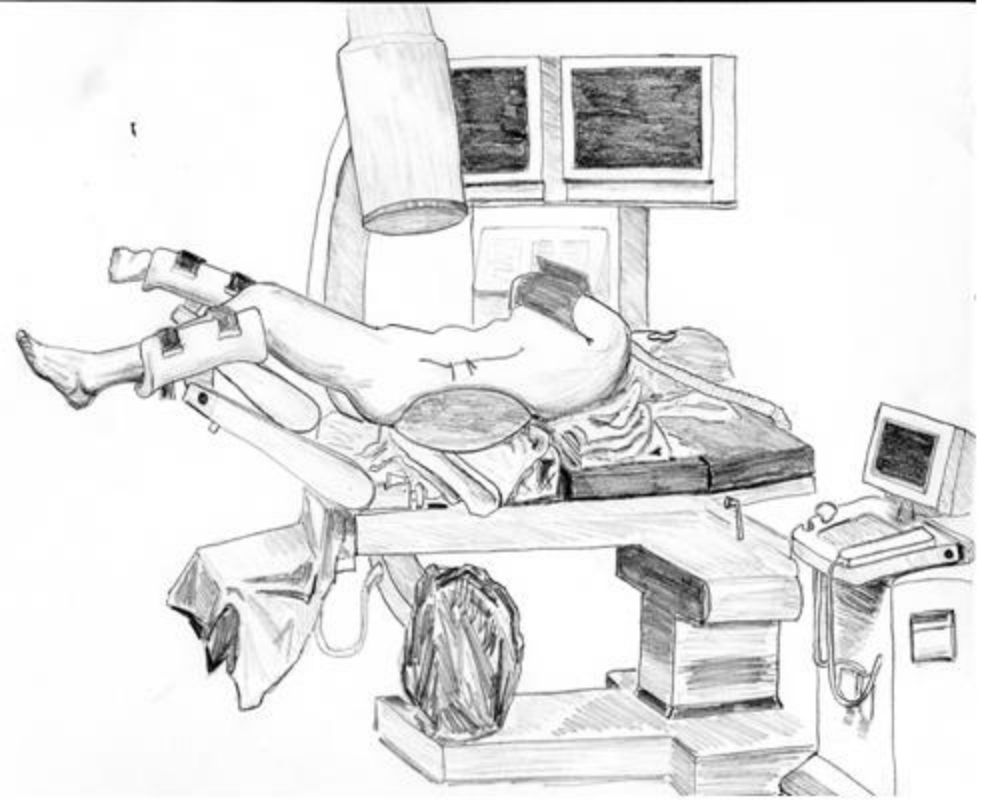
A short time after starting to operate on the Valdivia position, we found ourselves, at the end of a PCNL, with a large number of fragments lodged in the distal ureter. The case was a woman with a SWL due to a calculus of considerable size in the left kidney. After a long time fighting to remove the 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

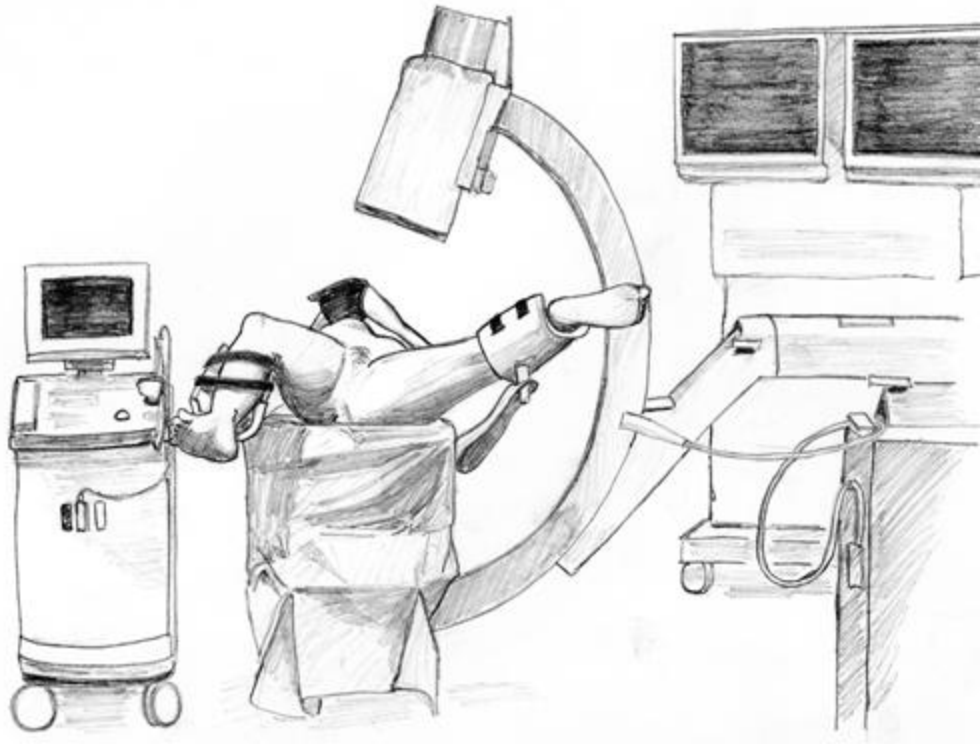


We very quickly solved the case and numerous fragments pushed upwards were easily extracted by the amplatz.



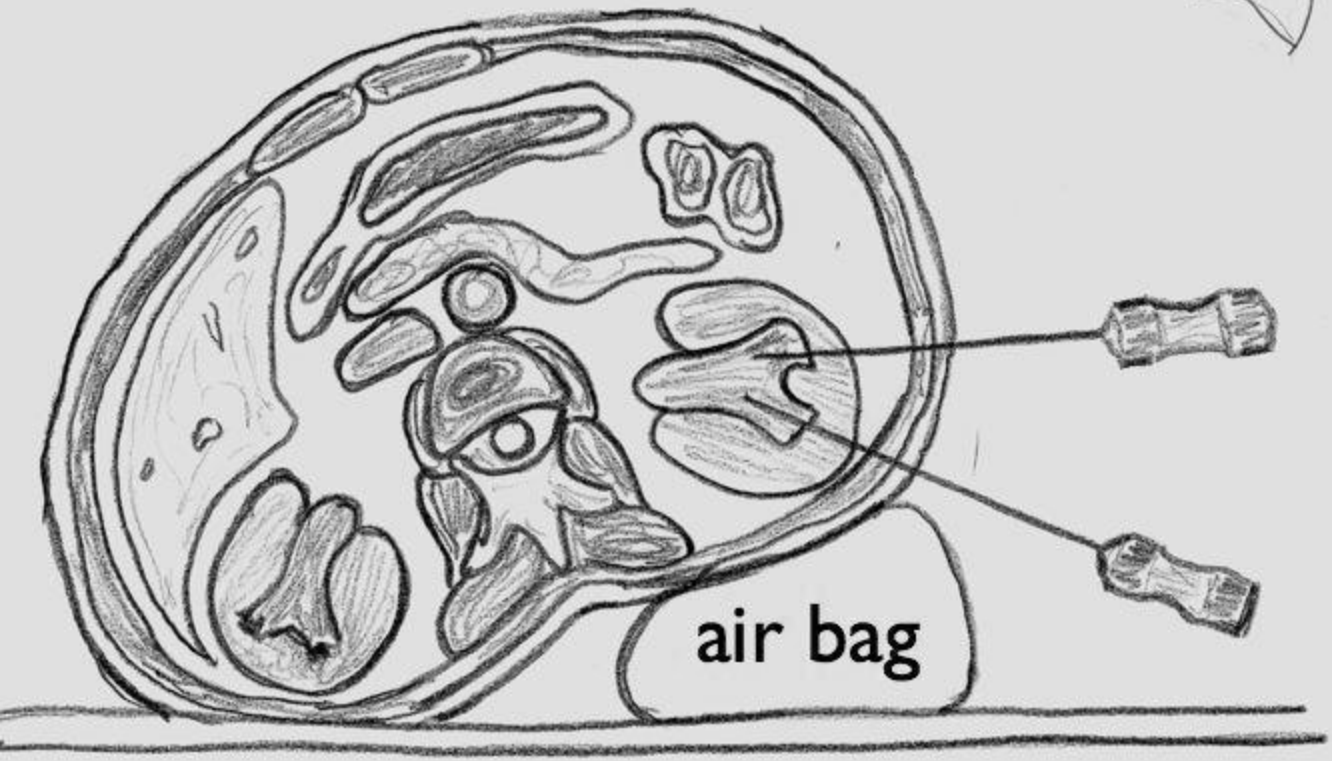
In the late 90´s, after 10 years of intensive work, our Philips table broke down and for budget reasons it was decided not to repair it, which we did not mind as we discovered that the ideal place to work with our position was a large conventional operating room with a good radiolucent table and a good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

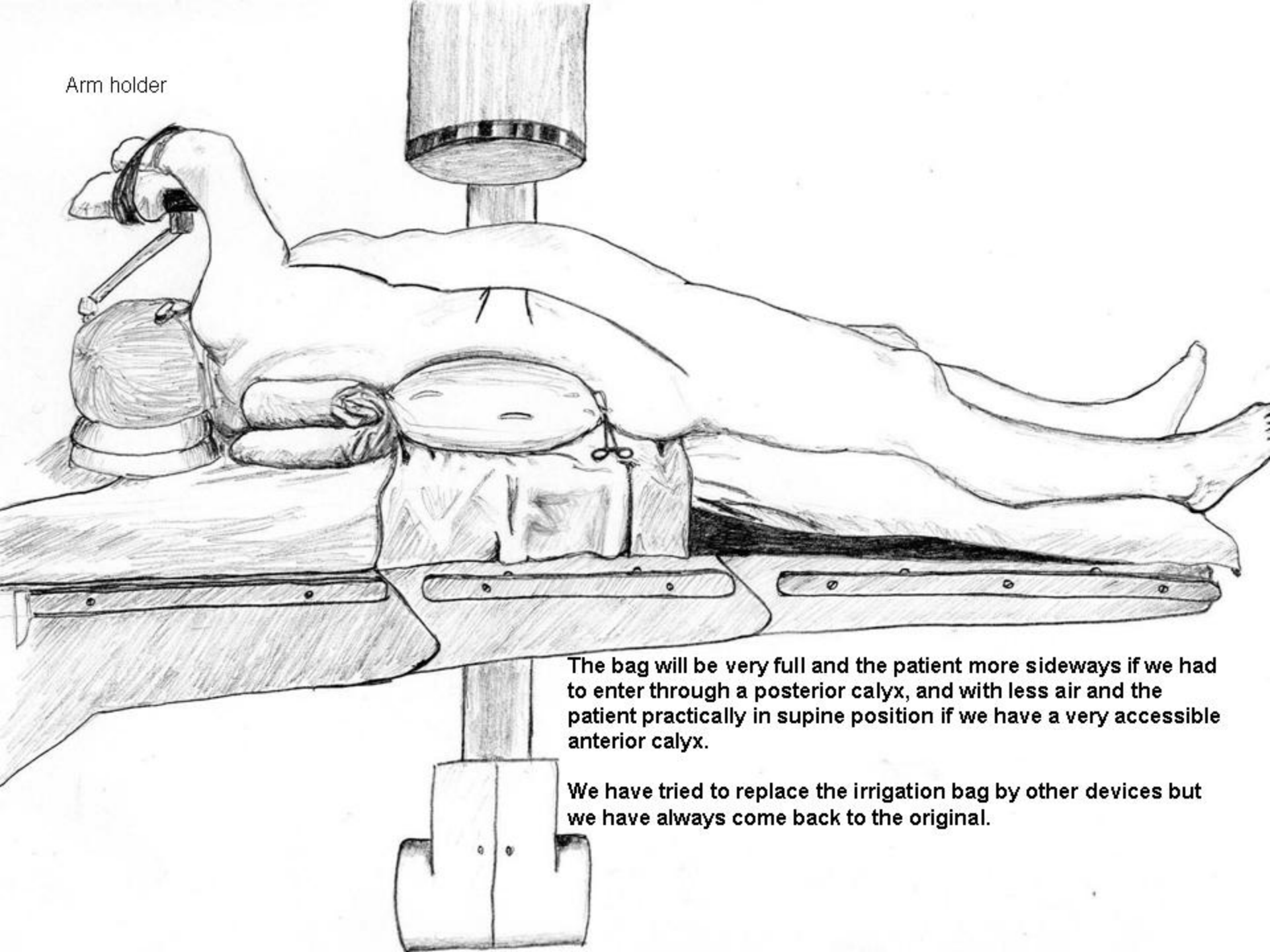
Soon we learned that the best place for this technique was the standard operating room with a good C arm. With a small shift in the orbital axis, 10º or 20º, we get an interference free X-ray image.



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.

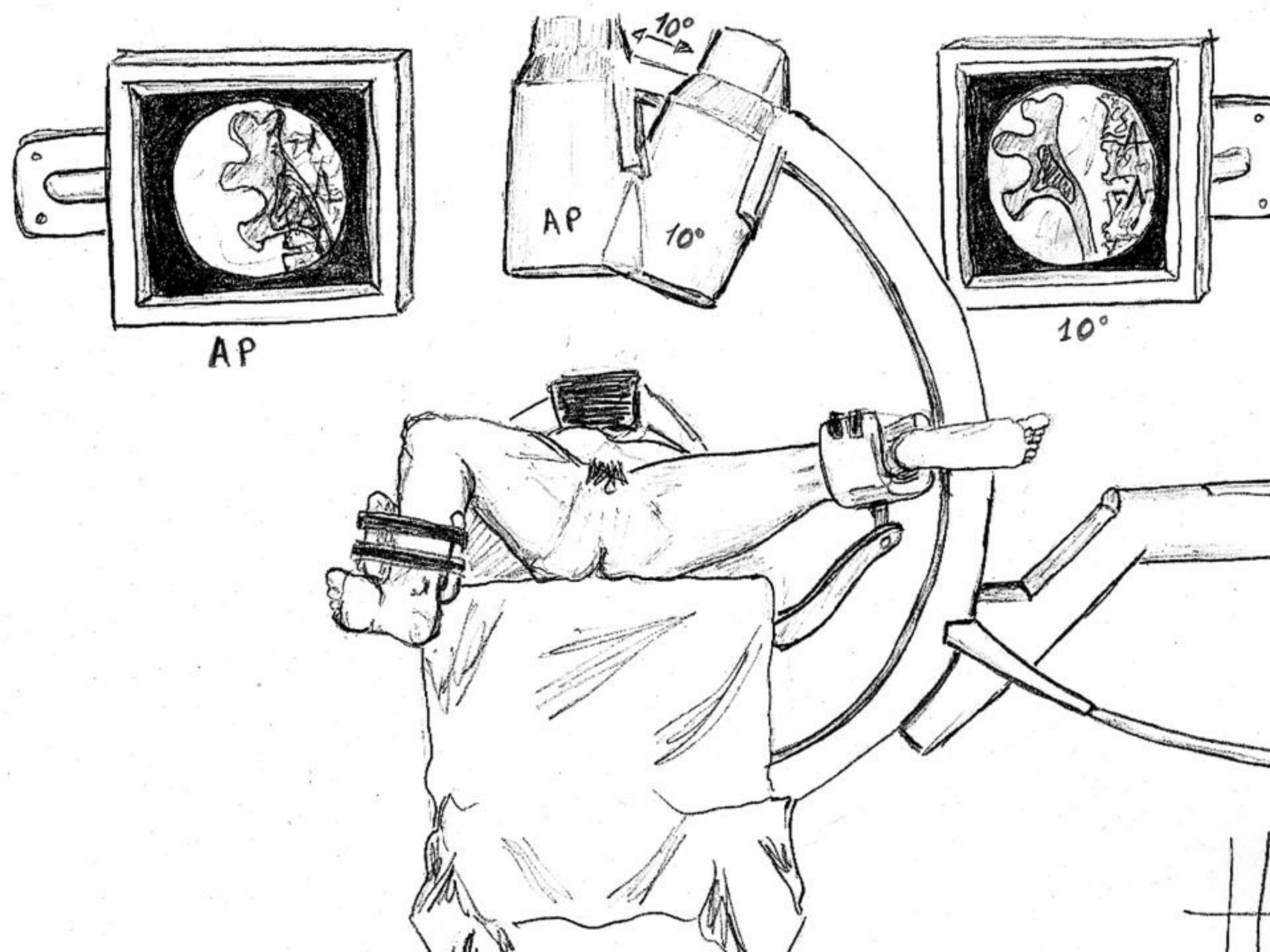


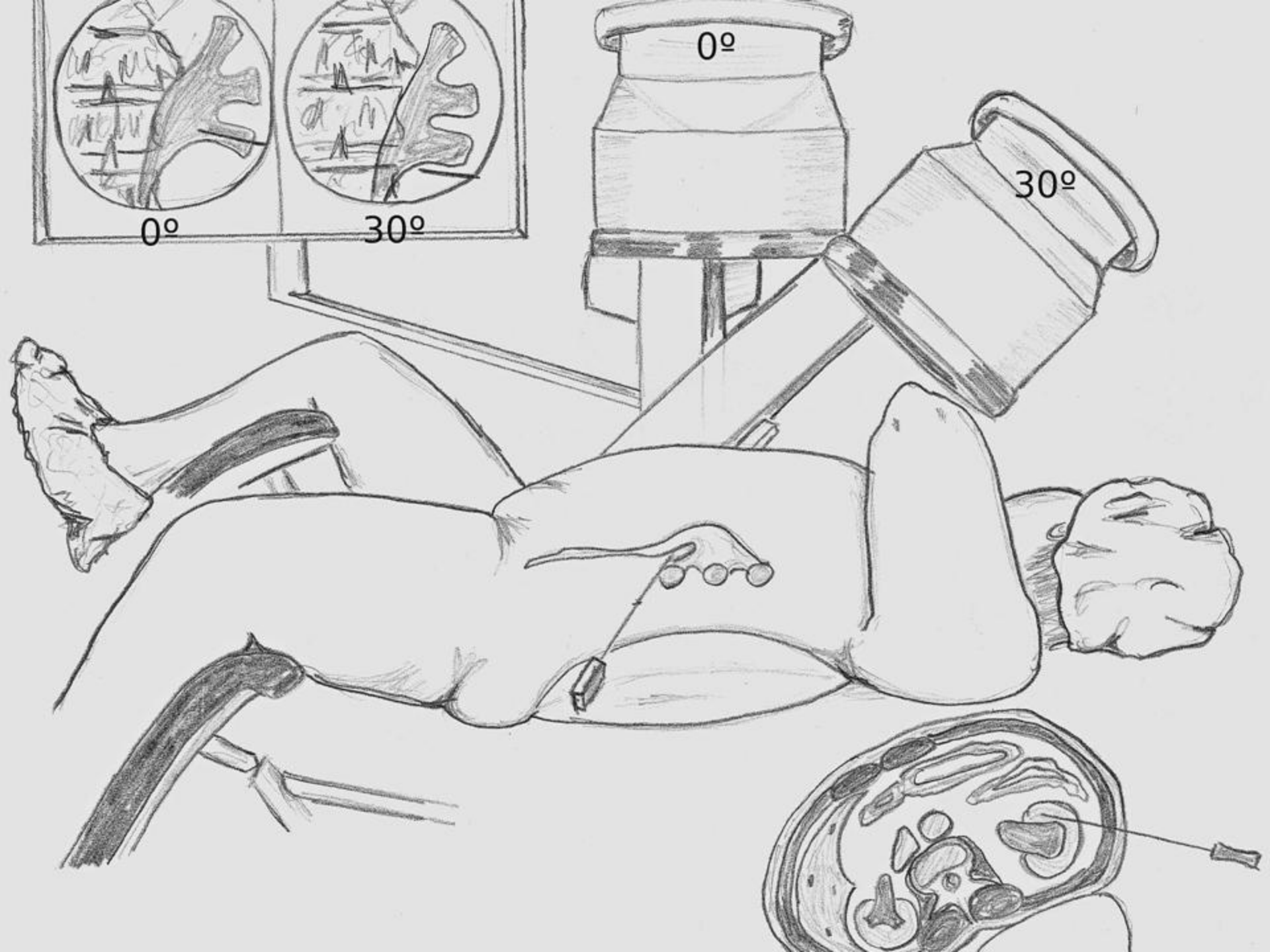


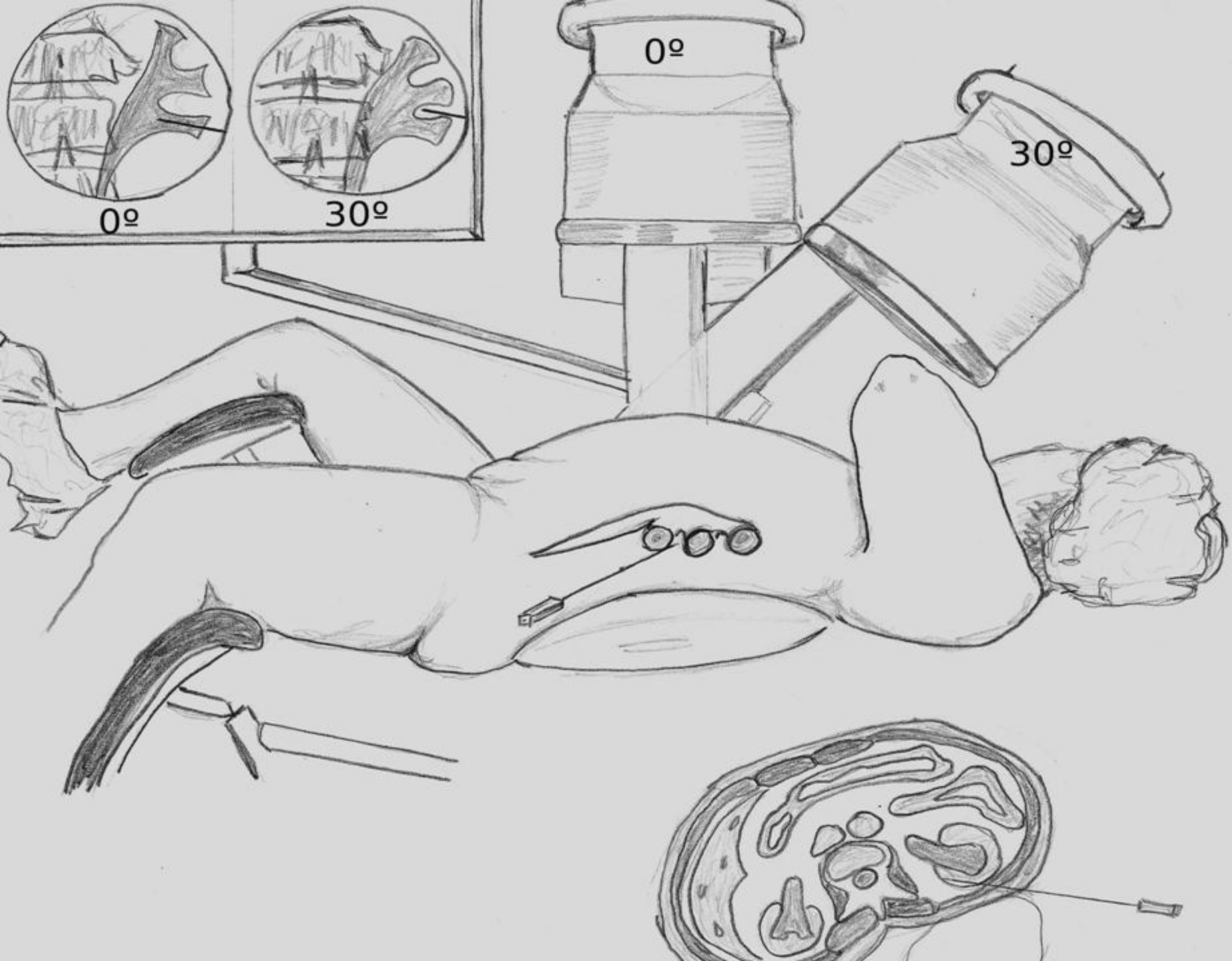


The bag will be very full and the patient more sideways if we had to enter through a posterior calyx, and with less air and the patient practically in supine position if we have a very accessible anterior calyx.

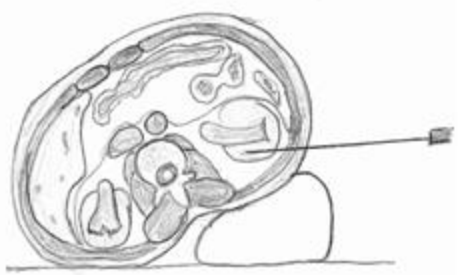
We have tried to replace the irrigation bag by other devices but we have always come back to the original.

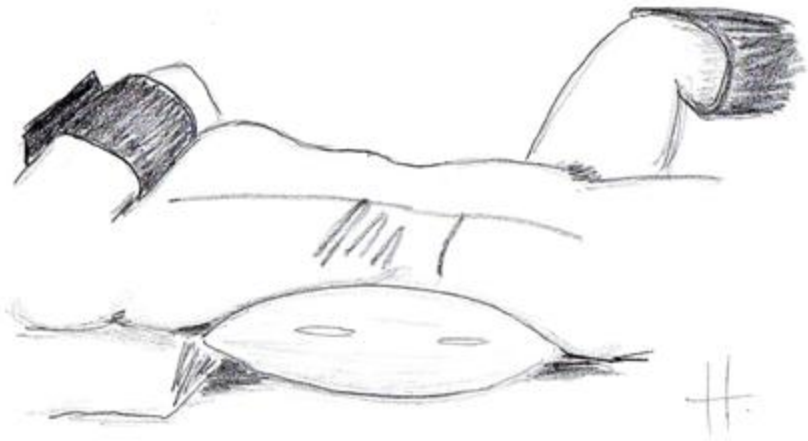

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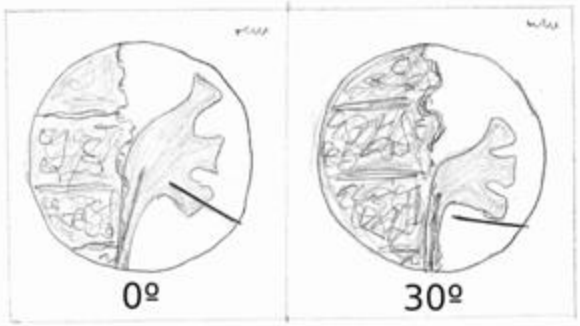

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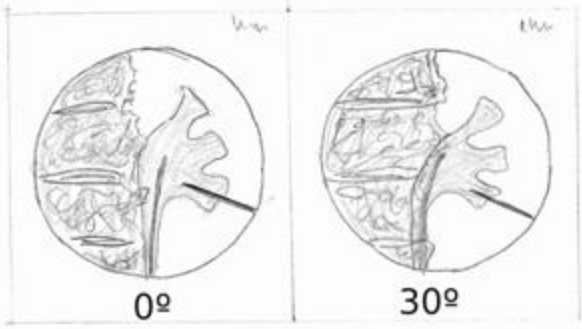




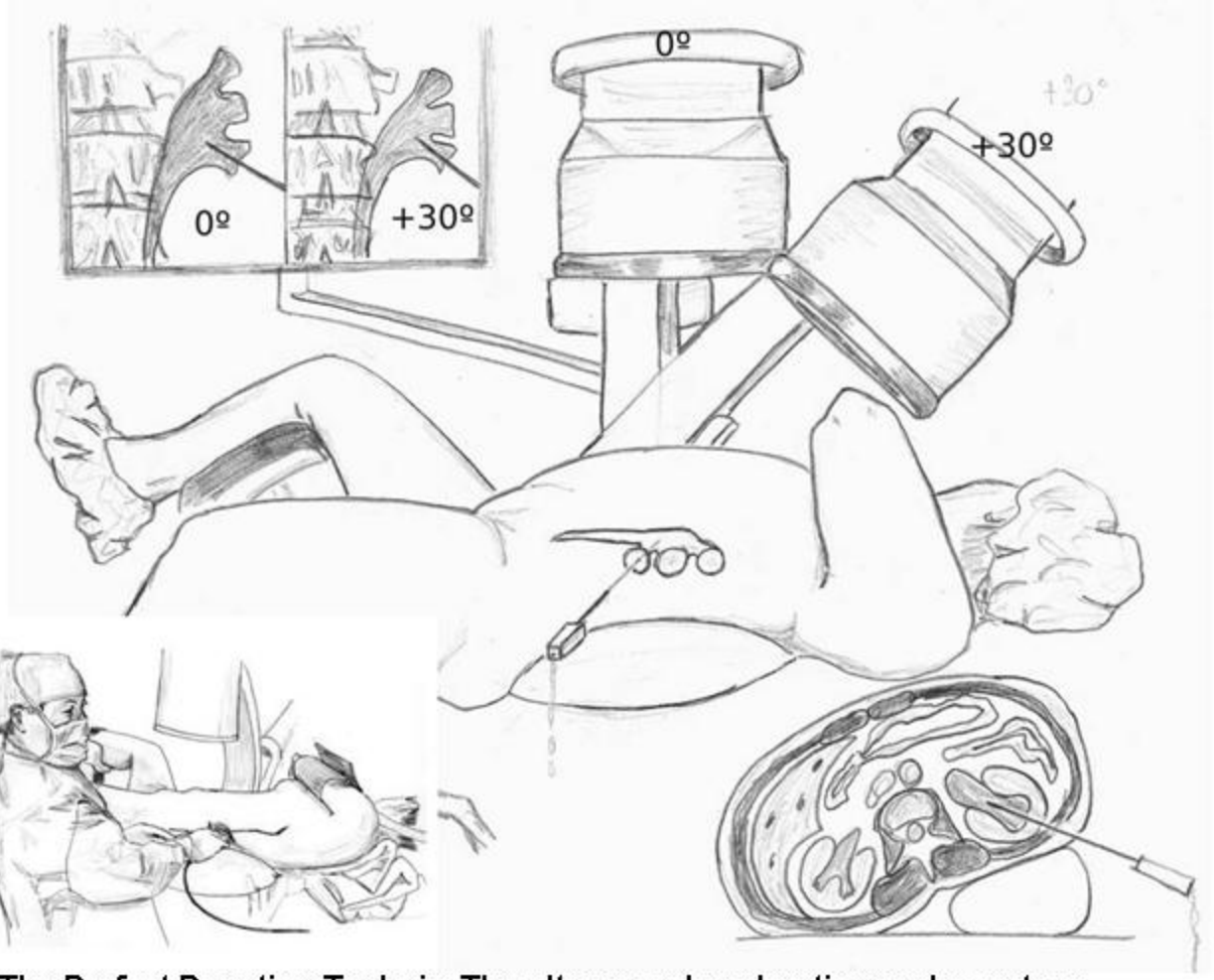

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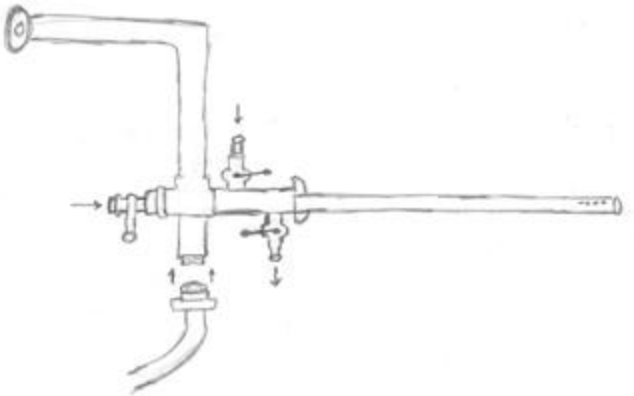



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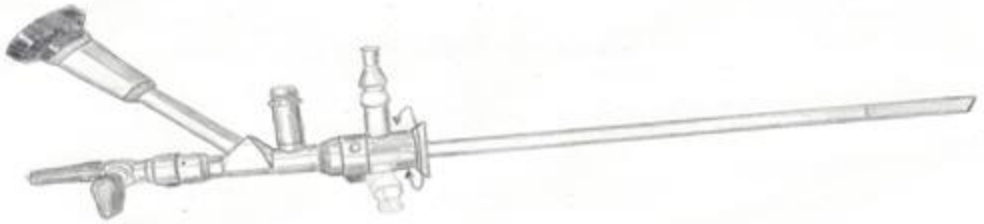


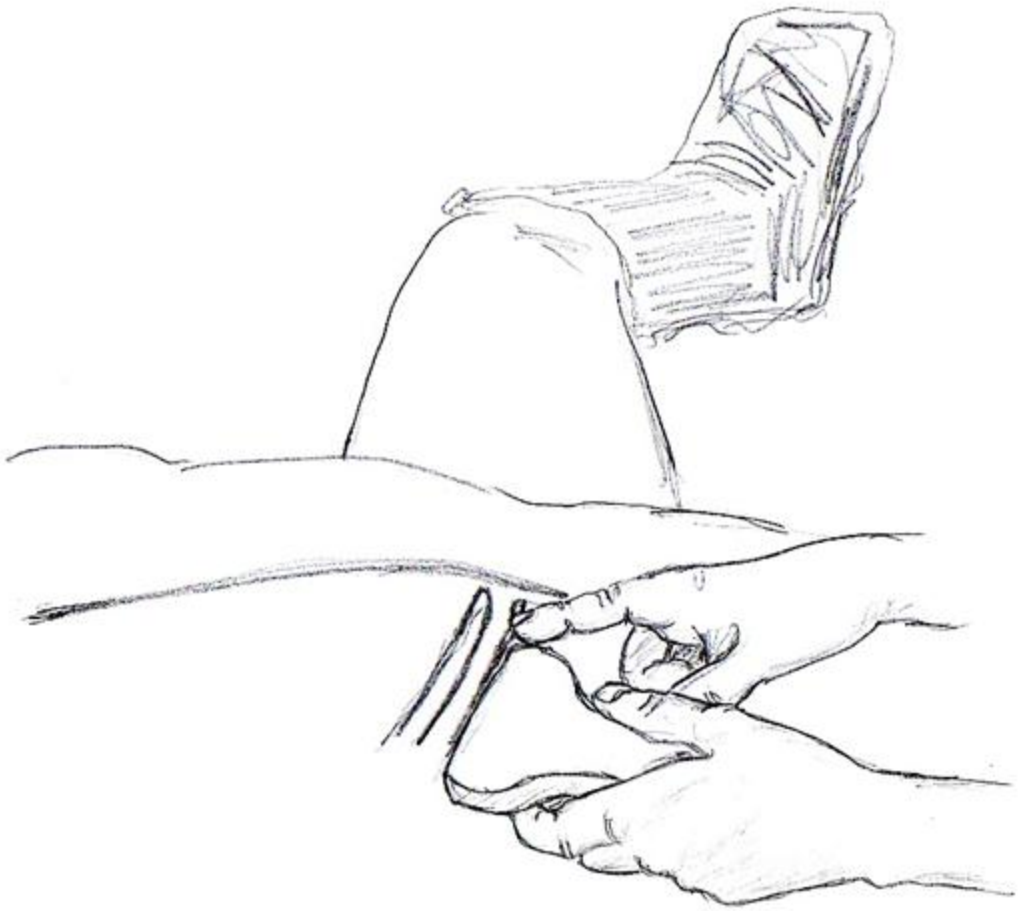


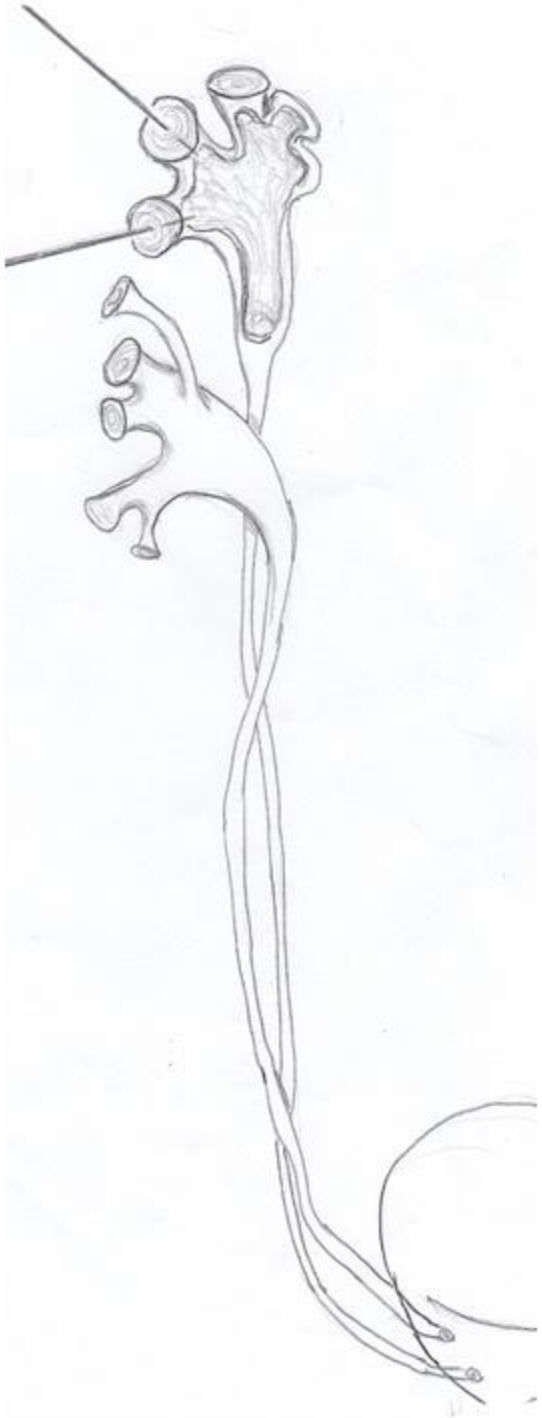
In this type of surgery all details have to be taken care of: suitable nephroscopes, ergonomically leg holders which do not protrude laterally too much, etc.
But what is critically important is a correct positioning of the patient, not starting the procedure until one feels reasonably comfortable and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

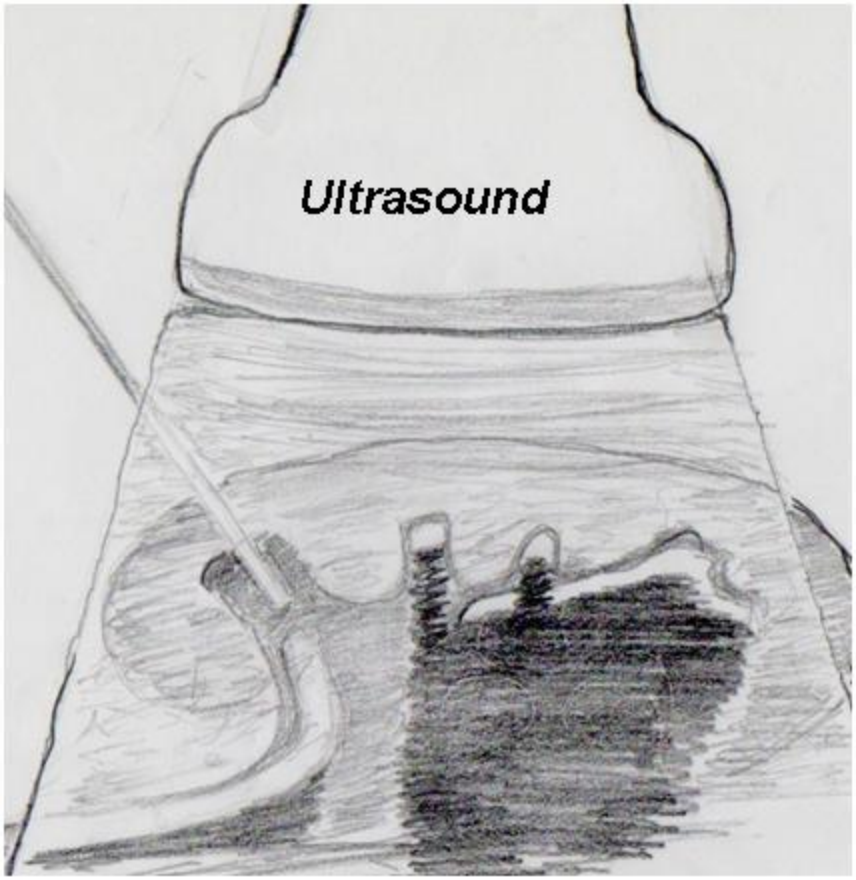




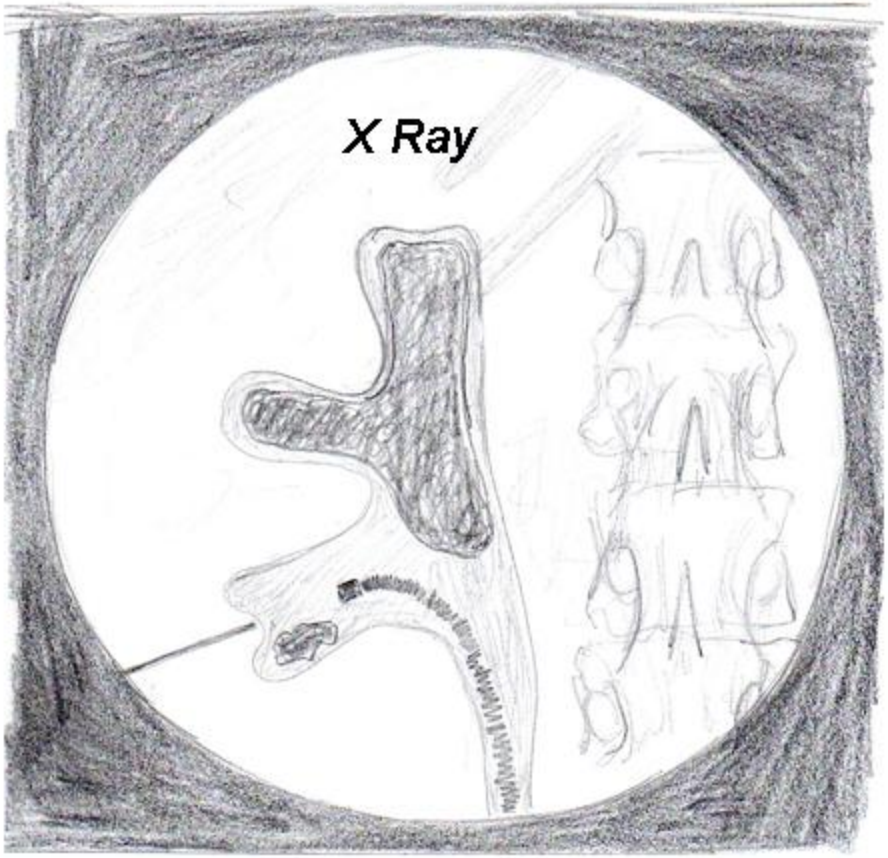


Upper calix punction

Intercostal approach

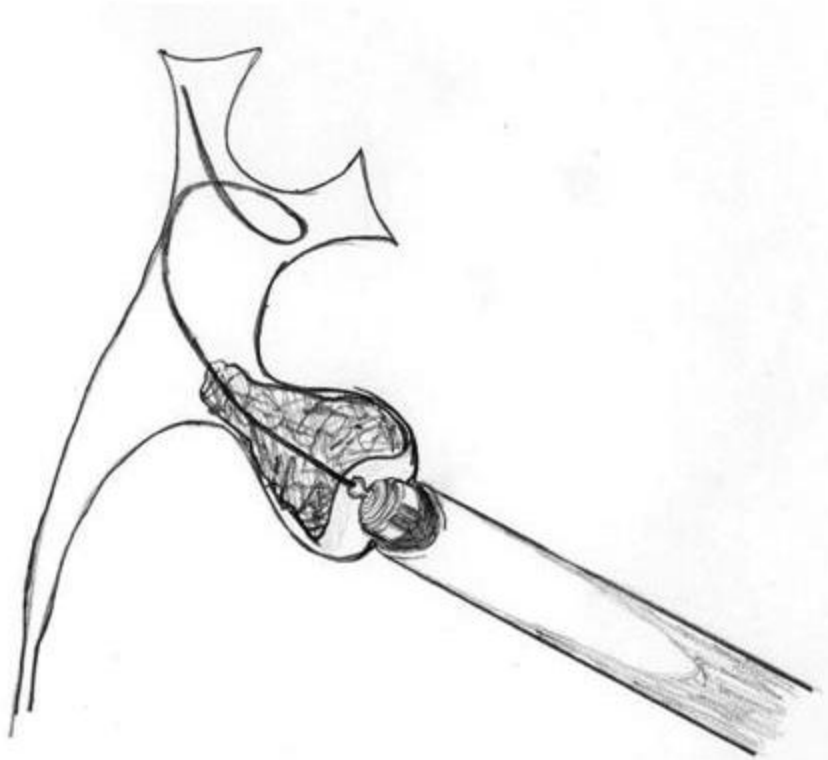


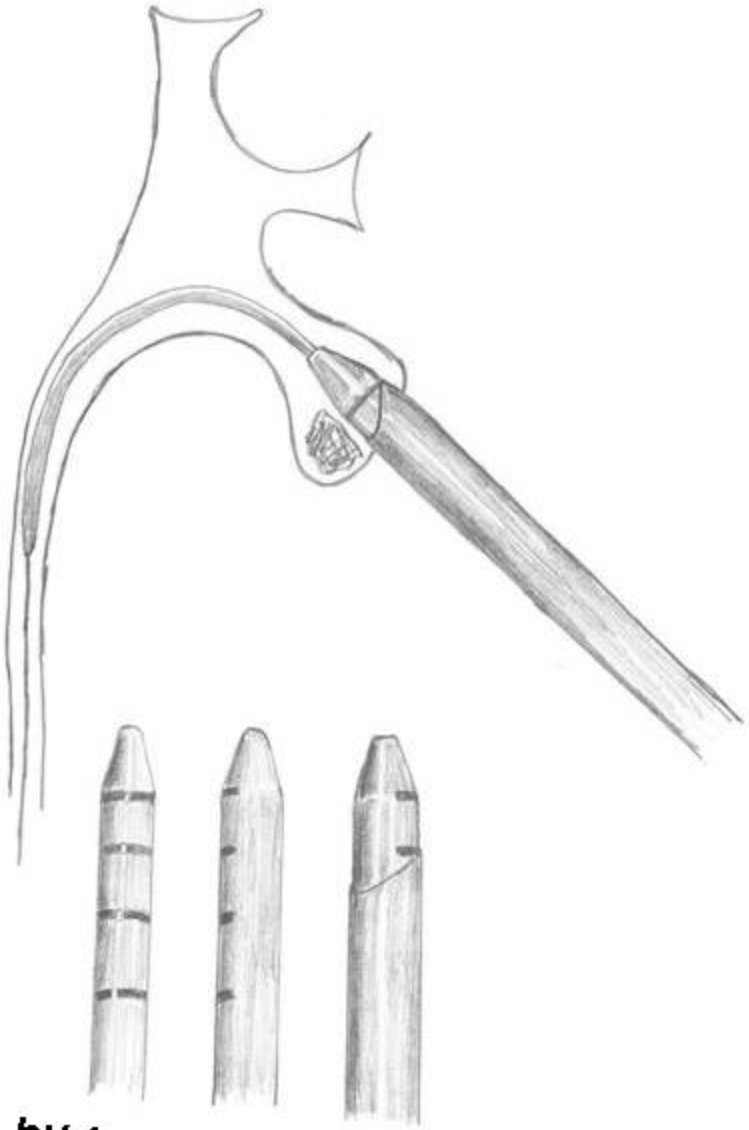
Endovision puncture



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Istambul, September 2012

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