



# X-RAY PROTOCOL

*Hip and Elbow Dysplasia*  
*Examination patella luxation (Putnamscore)*

1	<b>RADIOLOGIST VETERINARIAN</b>							
	Please have the X-rays taken by a veterinarian who specialises in X-ray or orthopaedics. To find a specialist in your area, please contact the Veterinary Association or ask your usual veterinarian.							
2	<b>MINIMAL AGE</b>							
	Minimum age for an official score, for small and medium-sized breeds from the age of 12 months, large breeds from the age of 18 months. Prediagnosis is possible from 10 months (without sedation)							
3	<b>SEDATION – GENERAL ANAESTHESIA – WITHOUT SEDATION (PRE-DIAGNOSIS)</b>							
	The X-ray examinations should be conducted under deep sedation or under general anaesthesia. The X-ray for a preliminary diagnosis can be carried out without sedation and already gives you good information about the condition of the hips,							
4	<b>POSITIONING – IMAGE QUALITY</b>							
	Radiographs which do not conform to the official positioning protocol are inadmissible for official evaluation, equally qualitatively insufficient images. The technical quality of the image must be perfect to allow good analysis: all joint contours and bone structures must be sharply imaged, otherwise the X-rays may be repeated, with all the inconvenience it entails.							
5	<b>INSCRIPTION &amp; DESIGNATION</b>							
	As a general rule, HD recordings shall be labelled for the purposes of the radiologic examination and marked. X-rays with insufficient, erroneous, provisional or erasable identification are not evaluated. <ul style="list-style-type: none"><li>• <b>Chip number or Tattoo</b></li><li>• <b>Name of the dog and name of the owner</b></li><li>• <b>Mention right and left indicated with an appropriated led letter (R and L)</b></li><li>• <b>Mesure on the x-ray mm or cm</b></li><li>• <b>Name of the veterinarian</b></li><li>• <b>Date of the X-Rays</b></li></ul>							
6	<b>ACCEPTED FORMATS</b>							
	DICOM, JPEG							
7	<b>SENDING OF THE IMAGES BY THE RADIOLOGIST TO OUR VETERINARIAN FOR SCORE</b>							
	The X-Rays can be upload on the portal <a href="http://www.myvetsxl.com">www.myvetsxl.com</a> . The radiologist must register once with the online portal and then submit the x-rays online. After uploading the images to the portal, they are archived at the company in original format for 10 years. The images can also be sent directly by the radiologist to our veterinarian by email. <b>(not by the owner)</b> . Conventional analog X-rays (non-digital recordings) will of course be accepted, sent to our reader by mail (in this case, the dog owner pays the postal fee for the return of the original x-rays. 7.- Euros.							
8	<b>DOCUMENTS THAT MUST BE JOINT TO THE X-RAYS</b>							
	Official certificate of examination with the dog's chip number. Inscription of patellar luxation score if examination has been performed <b>(See number 17)</b> at the end of the protocol.							
9	<b>PRICES IN EUROS</b>							
	HD	25.-	ED	25.-	V. COLUMN	25.-	STAMPS	7.-
10	<b>VETERINARIAN'S INFORMATION</b>				11	<b>PAYMENT OPTIONS</b>		
	Dr. Jean-François LEFOL, Veterinarian Tel. +33 (0)6 71 78 27 56 Email: <a href="mailto:jf.lefol@free.fr">jf.lefol@free.fr</a> Route Caen, 14150 Ouistreham FRANCE				Paypal link : <b>PayPal.Me/dysplasie</b> Bank name : CREDIT AGRICOLE NORMANDIE IBAN : FR76 1660 6052 1309 1386 3330 013 BIC : AGRIFRPP866 Check in favour of : Dr. Jean-François LEFOL			
12	<b>HD X-RAYS INSTRUCTIONS – POSITIONING</b>							

The hips can only be evaluated objectively if the pelvis is exactly ventrodorsal and the femora are parallel. This requires deep sedation or anaesthesia. The exposure (kV) shall be selected in such a way that the femora is sufficiently penetrated so that the edge of the ischium is clearly visible.

Position: Extended hindlegs. This is the standard official requested x-ray. The dog is grasped at the tarsi, adducted and turned inwards, extended backwards and pressed down against the table. As a rule, the paw tips intersect.

The X-ray image shall be checked for following criteria:

The pelvis is fully illustrated and the patellae should be visible.

Both foramina obturata appear to be the same size.

Both hip lobes appear to be uniform.

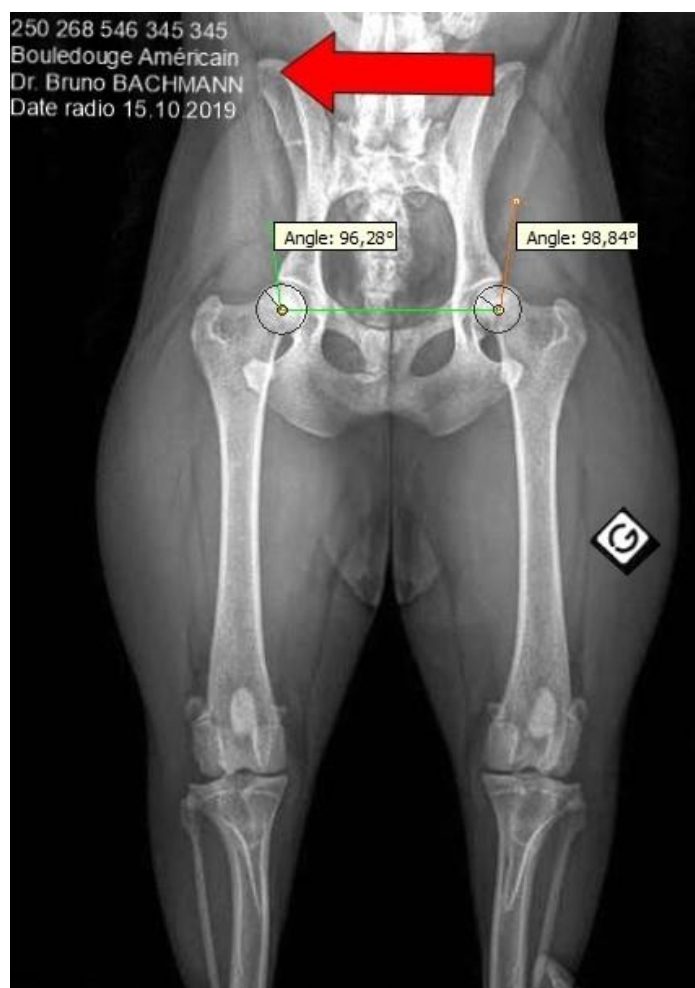
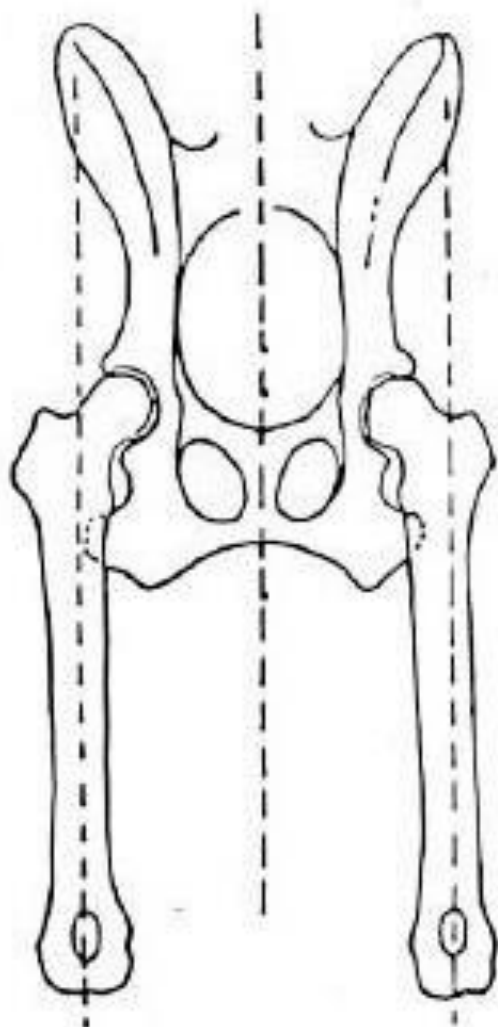
The femora are lying :

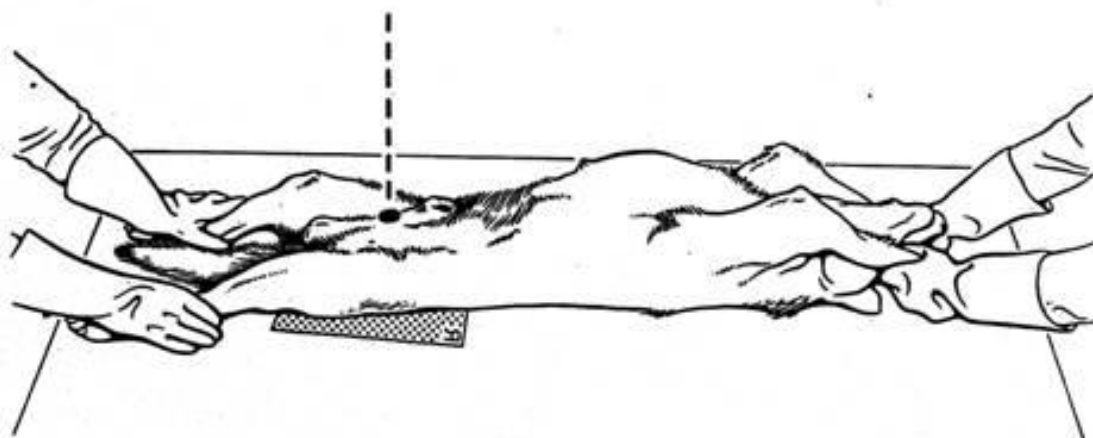
- parallel to each other
- parallel to the spine
- as parallel as possible to the X-ray table.

The patellae is mediated between the two femoral condyles.

The dorsal edge of the pan is visible through the femoral head (otherwise the image is underexposed).

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**HD – POSITIONING IMAGES**



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**ED X-RAYS INSTRUCTIONS – POSITIONING****A**

Elbow in maximal flexion. The angle between radius and humerus must be approximately 45°. The two humerus condyles must be perfectly superimposed.

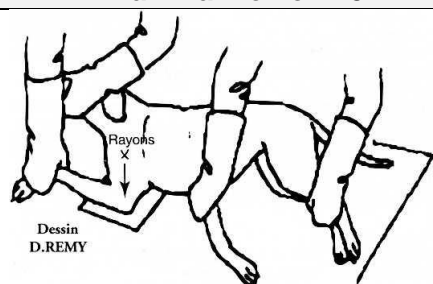
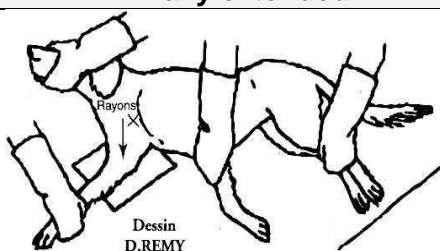
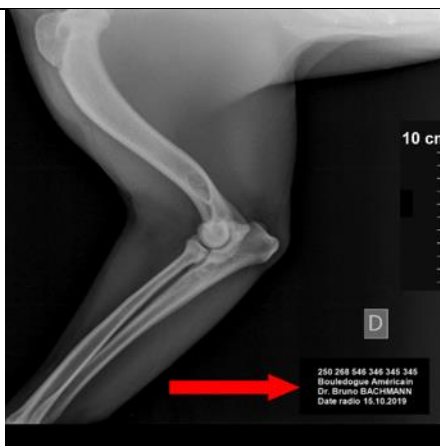
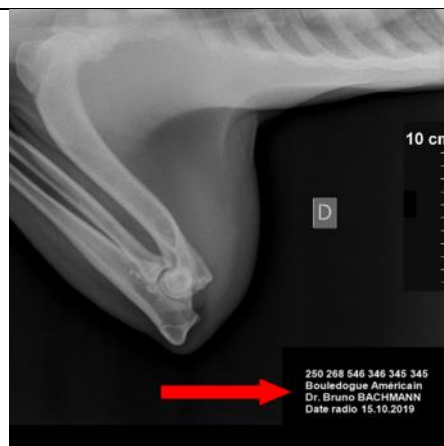
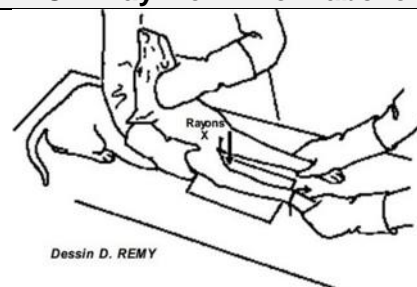
**B**

Elbow fully outstretched, mediolateral view x-ray. The two «Condylus humeri» perfectly superimposed.

**C**

The forearms and paws of the dog are turned inwards about 25° and placed flat on the X-ray table. A lateral-medial, 25° oblique image with an angle of 25° turned inwards (in other words, the member is turned inwards by 25° and the X-ray is centred on the elbow. One X-ray per elbow or both together like on the picture on **C**.

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**A. Maximal flexion 45°****B. Fully extended****C. X-ray view «from above»**

16	<b>INSCRIPTION OF THE RESULTS IN OUR DATABASE AND PEDIGREE</b>
	The inscription in our database is free of charge. Results appear on the pedigree and on the progeny's pedigrees up to 5 generations. If you want confidentiality, please let us know.
17	<b>PATELLAR LUXATION – PUTNAMSCORE</b>
	<p>Take the opportunity of this visit to your specialist veterinarian to ask him to examine the knees of your dog, no x-ray is necessary. Manipulation of the knees can reveal patellar luxation. A score according to Shingleton may be inscribed on the pedigree. The veterinarian should inscribe the results on the official x-ray examination certificate that he joins to the x-rays.</p> <p><b>PL-Free</b>    <b>0</b>        No sign of luxation</p> <p><b>Stade</b>        <b>I</b>        Patella can be manually luxated but returns to normal position when released</p> <p><b>Stade</b>        <b>II</b>        Patella luxates with stifle flexion or on manual manipulation and remains luxated until stifle extension or manual replacement occurs</p> <p><b>Stade</b>        <b>III</b>        L patella luxated continually, and can be manually replaced but will reluxate spontaneously when manual pressure is removed.</p> <p><b>Stade</b>        <b>IV</b>        Patella luxated continually and cannot be manually replaced.</p>