

## SOP-Calving

SOP-calving describes the procedures that ensure best practice regarding calving.

The description includes

- Handling of highly pregnant cows with and without Para tuberculosis
- Calving signs
- Guidelines for fetal monitoring
- Difficult calving's
- Treatment of calves and calving cows with Para tuberculosis
- Identification and registration of calving and calf
- Daily tasks around the calving box

All topics are illustrated with drawings and short texts that you can edit so it fits the conditions on your farm.

When you organize and implement SOP on your farm, it is an advantage to involve a Lean-certified cattle adviser. You'll find them on [www.leankvaeg.dk](http://www.leankvaeg.dk) Experience shows that an introductory course with the help of an expert is crucial for the output of SOP in the long run.

In the guide "Getting Started with SOP" (attached), there are some guidelines you can consider before you begin to adapt SOP for your work procedures.

Enjoy your SOP.



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# 1a. Calving - move para TB close up cow

1.1a **Check cow's Para TB status and days to expected calving**

If cow's status is Green → OK

If cow's status is **Yellow** or **Red**

→ Remove calf from the cow immediately after birth

Dansk Kvæg	Malkekvæg	ParaTB Mælkefodringsliste
Bes-nr Kontrolldato 29.05.08	CHR 7	Udskrevet 11.07.08 10.42 Side 1 Lro, Kvægsafdelingen 76 58 75 00 605

Baseret på mælkeresultater i CHR målt den 29.05.08

Risiko = Høj: mælk bruges ikke til fodring af kvie-kalve; Høj kævningshygiejne

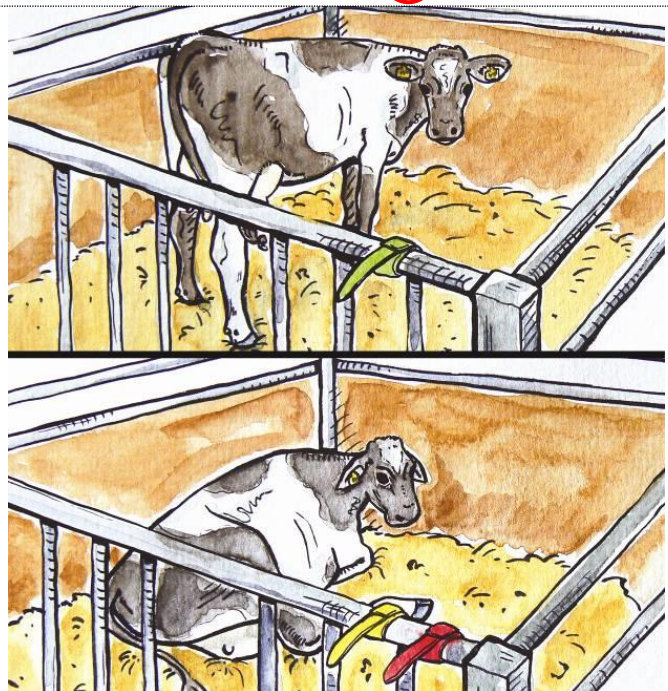
Ckr-Dyrrnr.	ELISA	Forrige Kælv nr. 28.02.08	Kælv nr.	Forventet kælvdato	Ydelsesnedgang	Inf.-grp
01290	0.3	0.0	5	14.08.08	Sandeynligt	2#
01473 afg	0.7	0.5	2	03.08.08	Meget sandeynligt	9#
01700	0.7	0.0	2	03.08.08	Sandeynligt	2#
01723	0.4	0.1	1	25.01.09	Sandeynligt	2#
01733	0.8	0.8	1	02.12.08	Meget sandeynligt	9#
01741	0.5	0.5	1	11.10.08	Meget sandeynligt	9#
01766 afg	0.6		2		Sandeynligt	2#
01789	0.8	0.9	1	27.07.08	Meget sandeynligt	9#
1864	0.3	0.1	5	17.10.08	Sandeynligt	2#
2018		0.3	4		Sandeynligt	2#
2130	0.5		1		Meget sandeynligt	9#
2132	0.3	0.0	1	21.07.08	Sandeynligt	2#
2140	0.7	0.2	3	24.09.08	Måligt	5
2185		0.6	4		Meget sandeynligt	9#
2200		0.3	4		Sandeynligt	2#

1.2a **Move the cow into a clean calving pen \_\_\_\_\_ (2-3) days prior to expected calving**

Green cow → Calving pen No \_\_\_\_\_

**Yellow / Red** cow → calving pen No \_\_\_\_\_

If the calving has started, do not move the cow before limbs of the calf are visible  
The calving pen should be big enough to perform birth assistance without problems. It should be possible to open or move sides of the pen.



1.3a **Provide feed and water**



1.4a	<b>Important</b>  <b>Yellow / Red cow</b> → remove calf immediately after birth  Discard all milk	
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# 1b. Calving - move close up cow

1.1b **Check days to cow's expected calving, on**

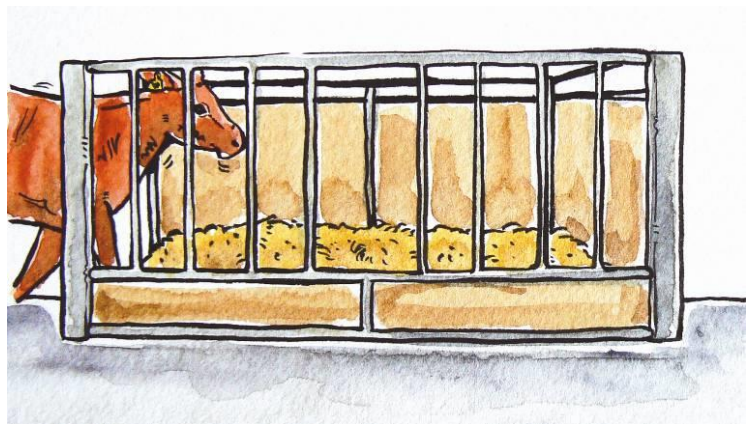
\_\_\_\_\_

(Report expected calving)

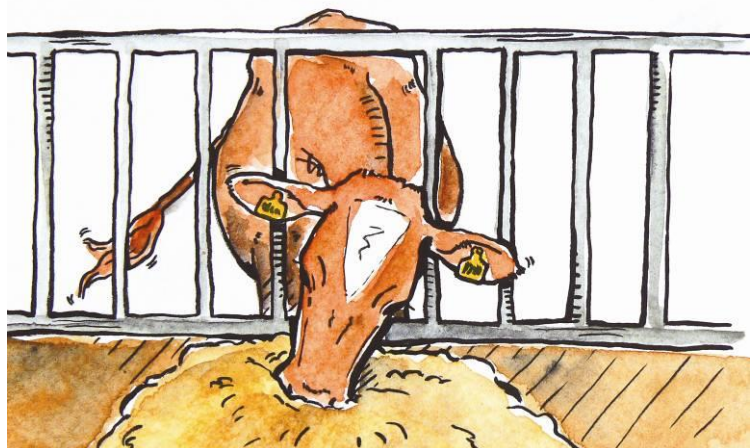
Dansk Kvæg		Malkekvæg		Forventede kælvninger				
				Udskrevet 02.01.09 08.30 Side 2				
				Dk Nysættelsesbesætninger, v. 1				
				87 40 50 00 8				
Juli 2009								
Ko nr/ Kvie nr	Kalve dag	Sta- tus	Kg EKM	CTV Golddate	Præg. kælvning Dato	Inseminering/Læbn. Tyr	Kons- sort	Para- inf.:
01630	1	Ko	32,2	2	13.05.09	25.09.08 V Exces		0
01772	13	Ko	25,7	1	25.05.09	07.10.08 VH Silas		0
01948	16	Ko	31,1	1	28.05.09	10.10.08 D Cresten		0
01970	24	Ko	27,4		05.06.09	18.10.08 VH Rauno		0
01648	26	Ko	20,6	1	07.06.09	20.10.08 Rakuuna		9
01797	26	Ko	37,8	1	07.06.09	20.10.08 Rakuuna		0
01646	29	Ko	30,0	1	10.06.09	23.10.08 Rakuuna		0

1.2b **Move the cow into a clean and dry calving pen \_\_\_\_\_ (2-3) days prior to expected calving**


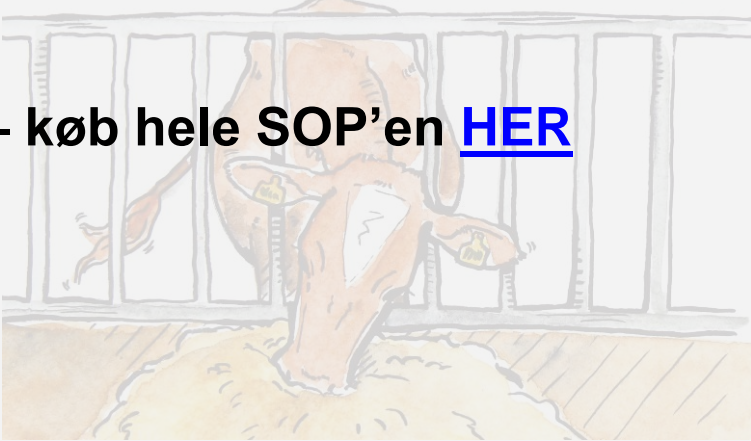

If the calving has started, do not move the cow before limbs of the calf are visible  
The calving pen should be big enough to perform birth assistance without problems.  
It should be possible to open or move sides of the pen.





1.3b **Provide feed and water**



## 2. Calving - minding close up cows

<p>2.1 <b>Monitor the calving pens for calvings</b></p> <ul style="list-style-type: none"><li>• In the morning</li><li>• At noon</li><li>• In the afternoon</li><li>• Before closing time</li></ul>	
<p>2.2 <b>Daily feed to dry cow/ heifer in calving pen</b></p> <p>Ad libit <b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> <p>Kg: _____ (Feed)</p> <p>Kg: _____ (Feed)</p> <p>Kg: _____ (Feed)</p>	
<p>2.3 <b>Daily supplement</b></p> <p><b>First time calvers</b> _____ kg concentrate _____ g dry cow minerals</p> <p><b>Other calvers</b> _____ kg concentrates _____ g dry cow minerals _____ g energy supplement _____ calcium supplement*</p> <p><small>*only 12 hours before calving, when there is visible signs of imminent calving, see SOP nr 3.0</small></p>	
<p><b>Notes</b></p>	

### 3. Calving - signs of calving

<p>3.1 <b>Tense udder</b></p> <p>Remember: 10-20 % of first time calvers do not show any signs before calving</p>	 An illustration showing a close-up of a cow's udder. The udder is depicted with a yellowish, somewhat swollen and tense appearance, with some dark spots and lines indicating its structure. The cow's body is partially visible in the background.
<p>3.2</p> <ul style="list-style-type: none"><li>• Cow lay down and get up</li><li>• The cow may be restless</li><li>• Stay alone</li><li>• Swollen soft vulva</li><li>• Soft pelvic tendons</li></ul> <p>This normally starts 12-24 hours before calving</p>	<p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p>  An illustration of a brown and white cow standing in a field. The cow is facing right and appears to be looking back over its shoulder. The field is depicted with simple lines and a yellowish ground.
<p>3.3 <b>Tail whipping and the cow shifts its weight from one hind leg to another</b></p> <p>Starts few hours before calving</p>	 An illustration of a brown and white cow in a field. The cow is shown in profile, facing left, with its tail raised and whipping. The ground is yellowish, and there are some small tufts of grass.

## 4. Calving - monitoring

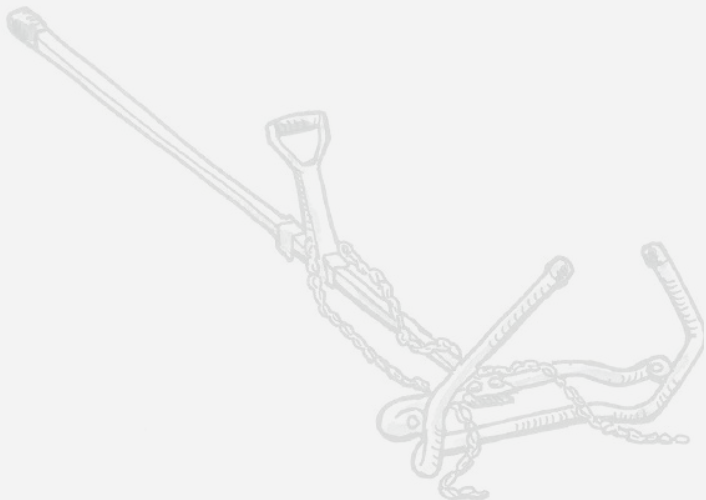

<p>4.1 <b>Amnionic sack (water bag) appears</b></p> <p><b>Monitor the cow discreetly and without stress every _____(30) minutes</b></p> <p>Do not remove the cow during this phase (the cow can be moved when 2 legs are visible)</p>	
<p>4.2 If the calf legs and head is not visible within _____(5) hours after appearance of the water calf: Examine the birth canal - check that the calf is placed correct or call _____(Vet, colleague, owner)</p>	<p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> 
<p>4.3 <b>Normal position of the calf on birth</b></p> <p>Hoofs, legs and head appear</p> <p><b>Check up on the cow every _____(20) minutes. If the head is out, stay with the cow</b></p> <p>Stagnation in calving for _____(20) minutes is a sign of difficult calving</p> <p><b>→ Give birth assistance</b> (SOP No 5)</p>	





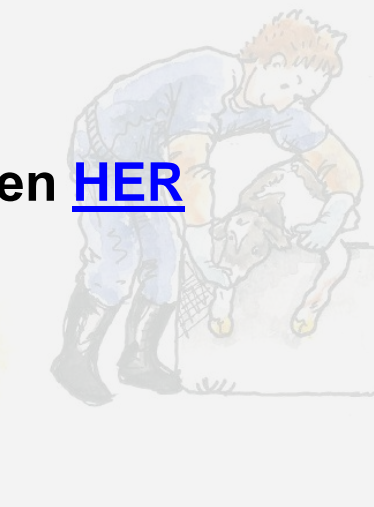



## 5. Calving - Birth Assistance

5.1	<p><b>Get clean bucket with water and soap</b></p> <p>Get gloves, birth coat, gel, clean and disinfected pulling chains _____ (In service room)</p>	
5.2	<p><b>Wash the cow's vagina opening in _____</b> (Water and soap or gel)</p> <p>Wear gloves and birth coat it protects against infections and allergies</p> <p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p>	
5.3	<p><b>Wash hands and arms thoroughly with water and soap</b></p> <p>Put on clean gloves. Use rectal gloves with nitrile gloves on top.</p>	
5.4	<p><b>The calving continues = do not pull.</b> <b>Total stagnation for 20-30 minutes → start pulling</b> (Se item 5.6)</p> <p>The expulsion phase begins when legs are visible and takes up to 1 – 1.5 hours. 1st calvers use 3-4 hours more time than other cows</p>	

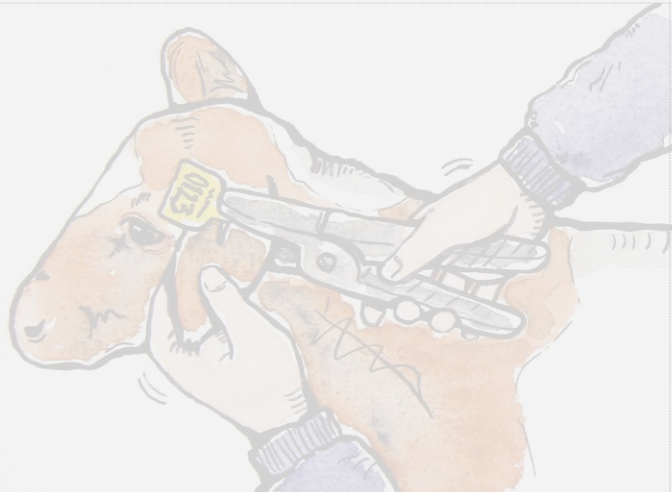
<p>5.5 <b>Make sure the calf is in the correct position</b></p> <p>2 forelegs and head, or two 2 hind legs and tail visible in the birth way?</p> <p>Yes = OK No = Push calf inside a bit, pull legs or head toward the opening again. If necessary call _____ (vet, colleague, phone)</p>	
<p>5.6 <b>Place pulling chains above the calf's pastern joints</b></p> <p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> <p>Alternately, pull the left and the right chain - <b>when</b> the cow bears down app. 1 cm per pull.</p> <p><b>Pause when the cow does not bear down</b> Stagnation for 10 -15 minutes and eyes not visible, contact _____ (vet, colleague, phone.)</p>	
<p>5.7 <b>If the calf is stuck at the hips, twist it sideways 45°C and continue the pulling</b></p> <p><b>Stagnation, call</b> _____ (vet, colleague, phone)</p>	

<p>5.8</p>	<p><b>Mechanical facilitator</b></p> <p>Use a licensed facilitator that pulls with max. 165kg</p> <p>Pulling chains should be cleaned and disinfected after use.</p>	
<p>5.9</p>	<p><b>Place pulling chains above the calf's pastern joints</b></p> <p>Attach the pulling chains to the facilitator</p> <p><b>Pause when the cow does not bear down</b> Stagnation for 10 -15 minutes and eyes not visible, contact _____ (Vet, colleague, phone)</p>	<p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> 
<p>5.10</p>	<p><b>Notes</b></p>	

## 6. Calving - The calf's first minutes


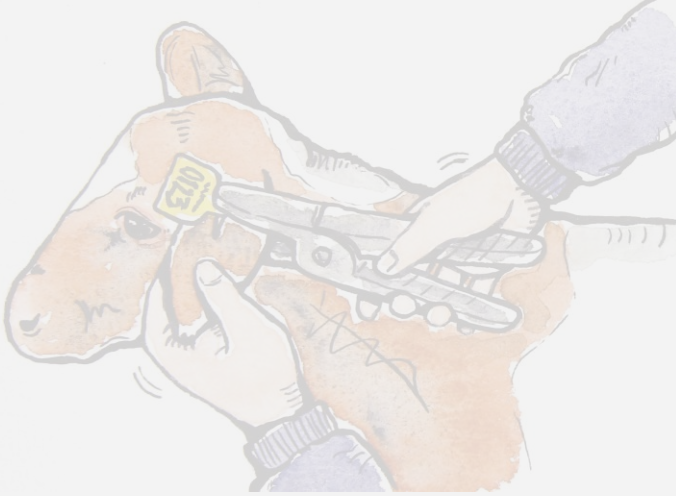

<p>6.1</p>	<p><b>Check calf's breathing</b></p> <p>Tickle its nose with a straw → the calf will sneeze out mucus</p>	
<p>6.2</p>	<p><b>If lots of mucus in air way</b></p> <p>Hang up the calf by hind legs, possibly over housing equipment</p> <p>Alternatively, place the calf in sternal recumbence and let head and neck hang down.</p>	 
<p>6.3</p>	<p><b>Rub/dry the calf with clean straw</b></p> <p><b>Disinfect the navel with</b> _____ (Spray bottle, iodine dip)</p>	 
<p>6.4</p>	<p><b>Calf of a Para TB Yellow or Red cow is moved to a calf pen immediately</b></p> <p>Other calves are moved after _____ (1) hour</p>	



**Vil du vide mere – køb hele SOP'en [HER](#)**

6.5	<b>Find ear tack</b>  <b>Put ear tacks in ears</b>  <b>Register CKR-number</b>	
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**Vil du vide mere – køb hele SOP'en [HER](#)**

## 7a. Labeling and registration – monitoring the calving pen – Para TB **GRØN**

<p>7.1a <b>Monitor the calving pen</b> _____ (4) times daily for new born calves</p> <p>_____</p> <p>First round in the stable</p> <p>_____</p> <p>Before lunch</p> <p>_____</p> <p>Before dinner</p> <p>_____</p> <p>Before closing time</p>	 <p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p>
<p>7.2a <b>Ear tacking the calf</b></p> <p>Find ear tags and tong at _____</p> <p>(Shelf, the yellow box, at the office)</p> <p><b>The cow must <u>never</u> leave the calving pen before the calf is ear tagged</b></p>	
<p>7.3a <b>Register CKR-Number of calf and cow:</b></p> <p>_____</p> <ul style="list-style-type: none"><li>• In PDA/Kvikko</li><li>• At the time calender,</li><li>• On whiteboard near the calving pen</li><li>• With SMS</li><li>• On the scheme "Registration af kalve" (see table 1)</li></ul>	

<p>7.4a</p>	<p><b>If you are not sure about what cow are the mother for the calf</b></p> <p>Note the expected correlation.</p> <p>Observe on subsequent visits if the connection is right.</p> <p>Still unsure make a <b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p>	<p><b>Table 1. Registration of calves. Correlation between the numbers for cows and calves.</b></p> <table border="1"> <thead> <tr> <th>Cow-number</th> <th>Calv-number</th> <th>Calving date</th> <th>Doubt</th> <th>Condition</th> <th>Progressing</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>33333-00101</td> <td>00233</td> <td>12.03.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>33333-00105</td> <td>00234</td> <td>17.03.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>33333-00109</td> <td>00235</td> <td>19.03.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>33333-00111</td> <td>00236</td> <td>28.03.</td> <td>?</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33333-00098</td> <td>00237</td> <td>28.03.</td> <td>?</td> <td></td> <td></td> <td></td> </tr> <tr> <td>33333-00088</td> <td>00238</td> <td>29.03.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Cow-number	Calv-number	Calving date	Doubt	Condition	Progressing	Size	33333-00101	00233	12.03.					33333-00105	00234	17.03.					33333-00109	00235	19.03.					33333-00111	00236	28.03.	?				33333-00098	00237	28.03.	?				33333-00088	00238	29.03.				
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<p>7.5a</p>	<p><b>Register</b></p> <p>Date of birth and sex</p> <ul style="list-style-type: none"> <li>In PDA/Kvikko</li> <li>At the time calender,</li> <li>On whiteboard near the calving pen</li> <li>with SMS</li> <li>on scheme "Registration of calves" (see table 1")</li> </ul>																																																		
<p>7.6a</p>	<p><b>Assess and registre</b></p> <p><b>Describe calving process and size of calf</b></p> <ul style="list-style-type: none"> <li>In PDA/Kvikko</li> <li>At the time calender,</li> <li>On whiteboard near the calving pen</li> <li>with SMS</li> <li>on scheme "Registrering af kalve" (see tabel 1)</li> </ul>																																																		

7.7a



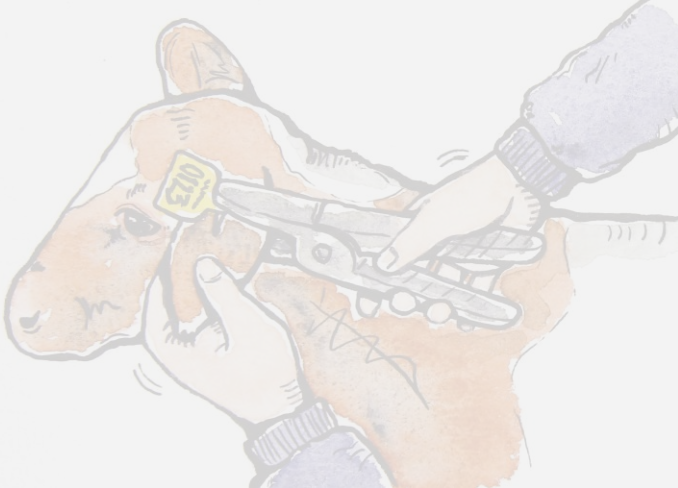
Move the calves to the boxes after \_\_\_\_ (1) hour



Vil du vide mere – køb hele SOP'en [HER](#)



## 7b. Labeling and registration – observation of calving boxes – Para TB Yellow or Red

<p>7.1b</p>	<p>The calving boxes are observed _____ (4) times daily for new born calves</p> <p>_____</p> <p>First visits in the stable</p> <p>_____</p> <p>Before lunch</p> <p>_____</p> <p>Before dinner</p> <p>_____</p> <p>Last visits in the stable</p>	
<p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p>		
<p>7.2b</p>	<p>Calf of a Para TB Yellow or Red cow is moved to a calf pen immediately</p>	
<p>7.3b</p>	<p>Ear tag the calf immediately after moving</p> <p>Find ear tag and the tong at the _____ (Bookcase, yellow box, at the office)</p>	





<p>7.4b</p>	<h3>Register CKR-Number for calf and mom</h3> <hr/> <ul style="list-style-type: none"><li>• In PDA/Kvikko</li><li>• At the time calender,</li><li>• On whiteboard near the calving pen</li><li>• with SMS</li><li>• on scheme "Registrering af kalve" (see tabel 1)</li></ul>	
<p>7.5b</p>	<h3>Register Date of birth and sex</h3> <hr/> <ul style="list-style-type: none"><li>• In PDA/Kvikko</li><li>• At the time calender,</li><li>• On whiteboard near the calving pen</li><li>• with SMS</li><li>• on scheme "Registrering af kalve" (see tabel 1)</li></ul>	<p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> 
<p>7.6b</p>	<h3>Assess and register Calving process and size</h3> <hr/> <ul style="list-style-type: none"><li>• In PDA/Kvikko</li><li>• At the time calender,</li><li>• On whiteboard near the calving pen</li><li>• with SMS</li><li>• on scheme "Registrering af kalve" (see tabel 1)</li></ul>	



Tabel 1: Registration of calves. Correlation between the numbers for cows and calves.

Cow-number	Calv-number	Calving date	Doubt	Condition	Progressing	Size			


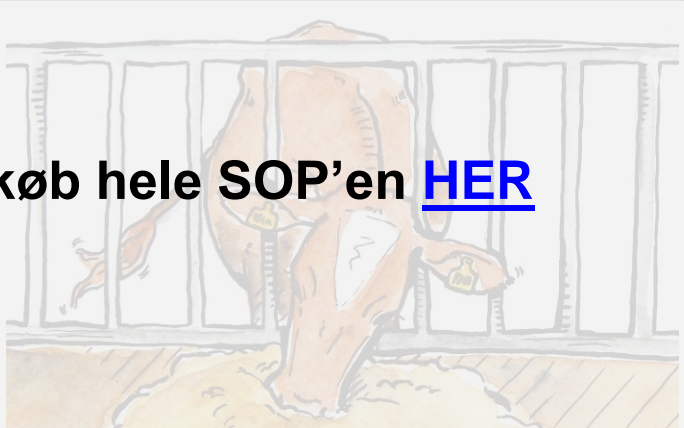


Vil du vide mere – køb hele SOP'en [HER](#)

## 8. Calving - The cow after calving

<p>8.1 <b>Register on</b> _____ (Paper, board, register, PC)</p> <ul style="list-style-type: none"><li>• Cow's CKR-No.</li><li>• Time of calving</li><li>• Calf's sex</li><li>• Calving procedure</li><li>• Calf's CKR-No.</li></ul>	
<p>8.2 <b>Offer the cow a bucket of water with</b> _____ (electrolyte)</p> <p><b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b></p> <p>If the cow does not drink, pump with _____ liters of water with _____ (electrolyte)</p>	
<p>8.3 <b>Avoid milk fever and give energy supplement to</b> _____ (2nd and older cows)</p> <p>After calving give _____ (Type, volume)</p> <p>Plus water and straw feed</p>	
<p>8.4 <b>Leave the cow in the calving pen, and monitor its condition every</b> _____ (1) hour</p> <p>If you are in doubt, contact: _____ (Manager, Vet, colleague, phone)</p>	

<p>8.5 <b>The cow is milked first time</b> _____ (Within 2 hours after calving)</p>	
<p>8.6 <b>Signs of milk fever:</b></p> <ul style="list-style-type: none"><li>• Head and ears hanging?</li><li>• Reduced appetite?</li><li>• Cold skin and horns?</li><li>• Cannot get up?</li></ul> <p>Contact <b>Vil du vide mere – køb hele SOP'en <a href="#">HER</a></b> (Manager, Vet, colleague, phone)</p>	
<p>8.7 <b>The cow is not drinking and eating within _____ (4 to 6) hours after calving</b></p> <p>Contact _____ (Manager, Vet, colleague, phone)</p>	
<p>8.8 <b>Within about _____ (12) hours the cow should have delivered the afterbirth</b></p> <p>If not → contact _____ (Manager, Vet, colleague, phone)</p>	
<p>8.9 _____ (2-5) <b>days after calving</b></p> <ul style="list-style-type: none"><li>• Move first lactation cowsto _____ (Group 1)</li><li>• Move others to _____ (Group 2)</li></ul> <p><b>Clean the calving pen</b> <b>Special requirements</b></p> <p>_____ (Disinfect with VirkonS)</p>	

## 9. Calving - Calving pen

9.1	<b>Remove excess feed from the feeding alley</b> _____ (daily)	
9.2	<b>Give fresh feed</b> _____ (daily)	
9.3	<b>Check water cup</b>  <b>Remove dirt and straw residue</b>  <b>Check water flow</b>	
9.4	<b>Add bedding</b> _____ (daily)	

Vil du vide mere – køb hele SOP'en [HER](#)