

Scenario 1 - Current practice and castration

[illegible]

Scenario 2 - Castration with pain relief

Score sheet	Name of scorer:		Expert 1							
Welfare principles	Welfare criteria	Positive impact on welfare (1-100%)		1st round score	90% certain lower bound	95% certain lower bound	2nd round score	90% certain lower bound	95% certain lower bound	Notes
Good feeding	1	Prevention and access to food. Animals should have appropriate access to the quantity and quality of feed that meets their requirements.	75	65	80	70	60	85	85	85: less pain or more likely to feed (male lambs)
	2	Prevention and access to water. Animals should have appropriate access to the quantity and quality of water for health and welfare.	80	70	80	70	60	80	80	80: no change
	3	Animals should have comfort when resting.	75	65	85	75	65	85	85	85: 30% of animals will be in less discomfort over 4 weeks (but this affects first 4-5 day of castration, then rest until 13 days) Can't provide assurance until first 30 days of comfort when animals lay down
	4	Animals should have thermal comfort (being neither too hot nor too cold)	80	70	80	70	60	80	80	80: no change
Good housing	5	Animals should have sufficient space to move freely	75	65	85	75	65	85	85	85: 30% of animals will be in less discomfort over 4 weeks (but this affects first 4-5 day of castration, then rest until 13 days) Can't provide assurance until first 30 days of comfort when animals lay down
	6	Animals should be free from injury and disorders (e.g. skin conditions, lameness, bone fractures etc.)	75	65	85	75	65	85	75	75: No change
	7	Animals should be free from disease, including metabolic conditions, with high standards of health and welfare.	70	65	85	65	60	80	80	80: 1 assumed a small change due to reduced immune suppression from castration pain
	8	Animals should not suffer pain - for example as a result of poor management, handling, surgery or procedures, slaughter etc.	65	55	75	55	45	65	65	65: Biggest change is here. Affects 50% of population, for about 4-6 weeks. This is 15-25% of life (4-6 weeks out of 6 months or 7 years). This is 1-2% improvement overall. But pain relief isn't TOTAL so we're 10% improvement
Good health	9	Animals should be able to express normal, non-stressful and behaviours (e.g. grooming and social bonding)	80	75	90	75	60	83	83	83: increased social behaviours over 4-6 weeks of lifetime due to pain relief, but not totally effective
	10	Animals should be able to express normal reproductive behaviours (e.g. breeding, oestrus etc.)	80	70	80	70	60	78	78	78: Fanning and exploring etc improved a little with pain relief
	11	Animals should be handled well with positive and not aversive human-animal relationships	45	35	60	45	35	60	45	60: Adverse human pain relief and avoidance will INCREASE handling, although benefiting lambs they may not increase handling with relief due to time away?
	12	Additional aspects not already identified covered previously in relation to the balance between positive and negative affective states for animals.								

Scenario 3 - No castration

Review sheet		Name of scorer:		Expert 3	CU 17	CU 11	MM 15.37 ± 0.8
Review principles	Review criteria	1st round score	10% certain lower bound	90% certain upper bound	2nd round score	10% certain lower bound	90% certain upper bound
Good housing	1 <div>Prevention and access to food. Animals should have appropriate access to the quantity and quality of appropriate feedstuffs for health and wellbeing</div>	75	60	85	73	58	83 No effect of constraint on feed intake
	2 <div>Prevention and access to water. Animals should have appropriate access to the quantity and quality of water for health and wellbeing</div>	80	70	90	78	60	80 no change
Good housing	3 <div>Animals should have comfort when resting</div>	80	70	90	77	67	87 slight improvement over castration with pain relief. Still issues with comfort outdoors (and indoor if inadequate, dirty bedding for first matter)
	4 <div>Animals should have thermal comfort being neither too hot nor too cold</div>	80	70	90	75	65	75 Reduced risk of thermal discomfort
Good housing	5 <div>Animals should have sufficient space to move freely</div>	90	80	95	85	75	90 no change
	6 <div>Animals should be free from injury and disorders (e.g. skin conditions, lameness, bone fractures etc.)</div>	75	65	85	75	65	75 no change
Good health	7 <div>Animals should be free from disease, including treatable conditions, with high standards of health care and hygiene</div>	75	65	85	67	57	77 Small change due to no immune suppression from castration pain
	8 <div>Animals should not suffer pain, for example as a result of poor management, handling, surgery or other procedures, slaughter etc.</div>	74	64	84	64	54	74 Biggest change in area. Affects 50% of population, for about 4 weeks. This is 15-25% of life (4-6 weeks out of 6 months to 27 weeks). This 7-10% improvement would be that the population is estimated to lose 10% improvement
Appropriate husbandry	9 <div>Animals should be able to express normal, essential social behaviours to promote good social wellbeing</div>	85	75	90	75	65	75 Would like to see more humanised social interactions, but would make sense for slaughter before we manage behaviour better? Early behaviours not affected due to pain. No on balance, probably no change to castration with pain relief
	10 <div>Animals should be able to express other normal behaviours (e.g. foraging, exploring)</div>	85	75	90	75	65	85 Energy and exploring etc improved a little of castration with pain relief with no castration pain. But limited by resources where indoors, type of land provided (monoculture) when outdoors
Appropriate husbandry	11 <div>Animals should be able to express essential and non-essential animal human relationships</div>	60	50	70	50	40	60 but the population does not always constrain its movement for fear. Still plenty of handling, driving etc that is unpleasant due to predator control of sheep to people, dogs etc
	12 <div>Additional aspects not already adequately covered above in relation to the balance between positive and negative affective states for animals</div>						