



Detection and treatment options for liver fluke

This information is provided by SCOPS as a guide. SCOPS does everything within its power to ensure the information is up-to-date and correct but product choices remain the responsibility of the prescriber and user. Always read the manufacturer's instructions before use. Withdrawal periods are subject to change and it is the user's responsibility to ensure withdrawal periods are adhered to.

Diagnostics and detection

Test	Application / limitations	Additional comments
Post-mortem examination	The definitive way to diagnose liver fluke.	Abattoir data is also very useful.
Fluke egg detection (individual or composite samples)	The standard sedimentation test can lead to false negatives because:- <ul style="list-style-type: none"> • Only adult fluke produce eggs so no eggs will be detected if only immature fluke are present. • Egg numbers fluctuate on a daily basis. • When the fluke burden is low, few eggs are being excreted. 	Most labs report a positive or negative result according to whether or not they see fluke eggs in the sample. An actual count should be requested if a fluke egg count reduction test (FECRT) is being carried out. Small numbers of eggs may be detected for around three weeks after successful treatment
Coproantigen ELISA (faeces sample required)	Can detect fluke infection around two to three weeks earlier than the fluke egg count (if fluke burdens are low there may be no advantage). There is no cross reaction with rumen fluke and only 0.5g of faeces is required, but coproantigen levels can fluctuate from day to day.	A positive result confirms active infection. The coproantigen reduction test is useful for checking flukicide efficacy when resistance is suspected.
Biochemistry (blood sample required)	Liver enzymes:- <ul style="list-style-type: none"> • GLDH levels increase from two to three weeks after infection. • GGT levels increase around six to eight weeks after infection. Albumin: Levels are reduced in chronic disease due to the blood feeding activity of adult flukes.	Changes in blood biochemistry can be variable and are not specific for liver fluke. Interpretation can be difficult and results should not be considered in isolation.
Serology (blood sample required)	Detects antibodies from two to four weeks post infection but levels may rise and fall over time, and remains positive for many months following successful treatment. Could be used check whether incoming animals have been exposed to fluke. Can be useful in lambs in autumn. Can be used as sentinels for infection. But a positive result does not confirm current active infection.	A positive result does not indicate that an animal is immune to liver fluke. Colostral antibodies can persist for around three months.
PCR technology	Used in research but not commercially available.	



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Diagnosis and treatment

Disease type	Peak incidence	Clinical signs	Fluke numbers	FEC (eggs per gram)	Treatment
Acute	July to December	Sudden death or dullness, anaemia, dyspnoea, ascites and abdominal pain.	1,000+ Mainly immature	0	Triclabendazole. Treat all sheep and move to a lower risk (drier) pasture if possible OR re-treat after 3 weeks. Further deaths may occur post-treatment from liver damage incurred.
Sub-acute	October to January	Rapid weight loss, anaemia, submandibular oedema and ascites in some cases.	500-1,000 Adults and immatures	<100	Treat with a fasciolicide active against mature and immature fluke. If sheep cannot be moved to lower risk pasture, re-treat after 5-8 weeks.
Chronic	January to April	Progressive weight loss, anaemia, submandibular oedema, diarrhoea and ascites.	200+ Adults	100+	All fasciolicides are active against the mature fluke involved in chronic disease. Treat and move to lower risk pasture.

Efficacy of flukicides available for use in sheep in the UK against susceptible fluke populations

Flukicide	Age of fluke (weeks)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Albendazole										50-70%		80-99%		
Oxyclozanide										50-70%		80-99%		
Nitroxynil							50-90%			91-99%				
Closantel							50-90%			91-99%				
Triclabendazole	90-99%			99-99.9%										

Table adapted from Fairweather and Boray, 1999

[A list of flukicide products is available in the SCOPS Know Your Anthelmintics guide](#)