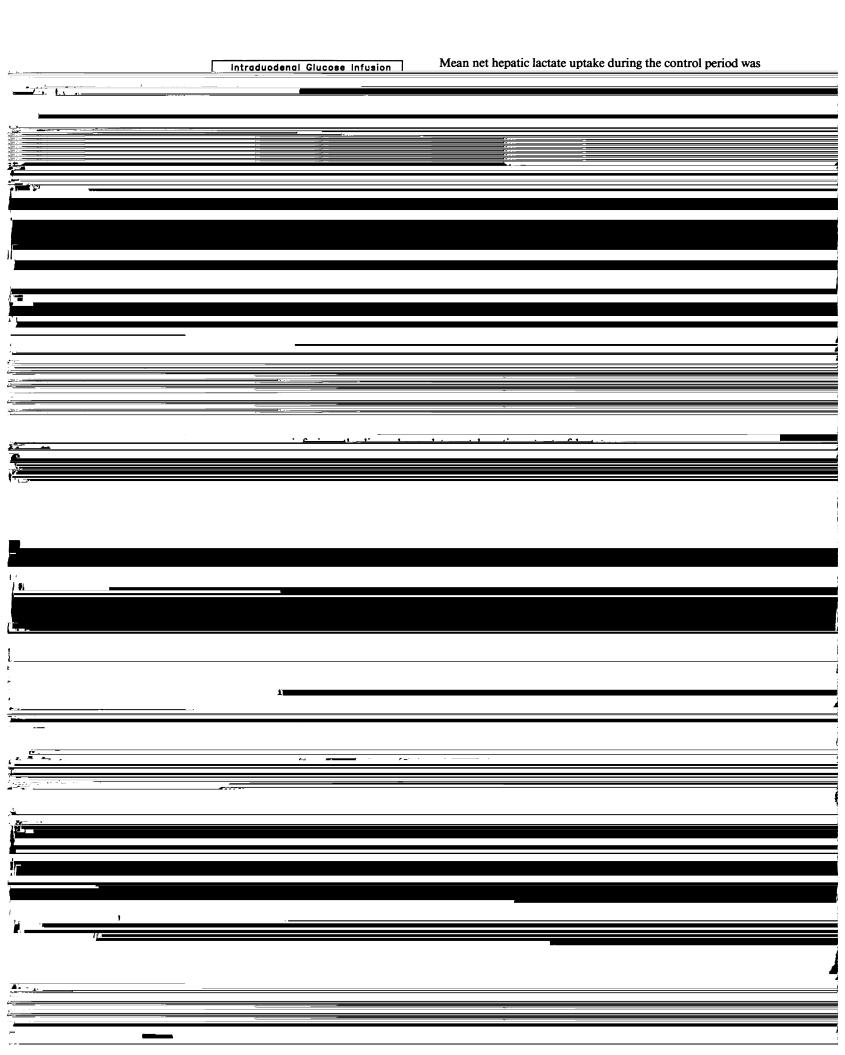
	Sources of Carbon for Hepatic Glycogen Synthesis in the Conscious Dog
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-	Doss W. Neal,* Christine Badet, [§] and Gerald I. Shulman [‡]
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TE	way contribution (see Discussion). The weights of the animals ranged from 18.7 to 23.9 kg (mean±SEM 21.2±0.8 kg). They were maintained	cess took no more than 10 min from the time of sacrifice. The position of the catheter tips was then verified to ensure proper placement.
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	Diet No. 5006. Ralston Purina Co St. Louis. MO) composed of 34%	after a 42-h fast, and liver samples were taken just as in the experimen-
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	blood glucose values per se, but the variance was reduced because of the accuracy of plasma glucose A-V differences, which do not require a	Results			
<u>«</u>	deproteinization sten. The use of whole blood glucose ensures accurate	Rlood alucose concentrations: henatic alucose load_halance.			
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portal vein whole-blood glucose levels, arterial and portal vein

cose entry into the erythrocyte.



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20Glvcerol →		within the glucose space, leaving 44% of the net absorbed glucose, or 13 g, to be disposed of by nonhepatic tissues. If the
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	Table II. Compa	rison of Net He	epatic Balanc	e of Gluconeogeni	c Substrates w	ith Net Hevatic Gl	vcogen Svnthe	sis and NMR-	determined	
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	Dan	acubau*	laut-4-	-	-	DV -l	- CT			
	Dog no.	carbon*	lactate	C ₁	C ₆	PV glucose	CF	pathway	synthesis	

	synthesis are not clear. Although there were no correlations	A second possibility is that lactate carbon was derived from
	between hormonal levels and changes and the pathways of glycogen synthesis, it is notable that dog 3, which had an unusually large mass of glycogen deposited via the direct pathway.	nonhepatic tissues. This implies that there was uptake of lactate by the liver, even though there was net lactate output, suggesting that the total hepatic lactate production was greater
	experienced an increase in plasma insulin concentration (to a	than the net production. Net balance measurements underesti-
	level that was fourfold the mean of the other does) during the	mate absolute uptake or production of substrates which are
	final hour of the glucose infusion.	both taken up and released by an organ, since they reflect the
	The current data are consistent with the hypothesis (33)	quantitatively dominant process. Thus, we cannot rule out this
	that the three-carbon substrates used for glycogen synthesis by	explanation of our findings. The lactate being taken up by the
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