surgical team in larger hospitals. 2. In smaller hospitals, even the unsuper-
vised nurse anesthetist is preferable to the untrained physician. 3. There are
not enough medically trained anesthe-
tists to staff a fourth of the hospitals.
4. The current campaign is of ques-
tionable character on several counts,
and it does nothing to promote public
respect for the medical anesthesio-
gist."

J. C. M. C.

NICHOLSON, M. J., AND WERLE, C. W.: 
Pharmacology and Indicated Clinical Use of Vasopressor Drugs in An-
esthesia. Lahey Clinic Bulletin 7:
204–212 (Jan.) 1948.

"More than 200 compounds that ex-
hibit vasopressor activity have been
synthesized and studied since 1900.
The chosen few employed in therapeu-
tics at the present time are, with few
exceptions, related chemically to epi-
nephrine. . . . In general, the actions
exhibited in the body by epinephrine
resemble those obtained from stimula-
tion of adrenergic nerves. . . . The
exact fate of epinephrine in the body
is unknown. . . . Both systolic and dia-
tolic pressures rise rapidly to a peak
which is proportional to the dose ad-
ministered, then fall to a level some-
what below normal. . . . The chief
vascular action of epinephrine is ex-
erted on the smaller arterioles, although
capillaries, veins and larger arteries
also respond to the drug. Various
vascular beds react differently. The
vessels of the skin and mucosa are con-
stricted; those of skeletal muscles are
dilated; the splanchnic bed is con-
tracted; the cerebral and retinal ves-
sels are constricted, as are the glomeru-
lar arterioles; the pulmonary vessels
tend to contract but are less responsive
that the other vessels. In man, the
response of the coronary arteries to
epinephrine is predominantly one of
dilatation. This problem is by no means
settled because of conflicting evidence
in dogs and because epinephrine can
induce attacks of pain of cardiac ori-
gin. . . .

"Epinephrine causes immediate and
effective relaxation of bronchial mus-
cles. It does not stimulate the respira-
tory center as do certain other symp-
athomimetic amines. When given
intravenously, a period of apnea may
follow ('epinephrine apnea') owing to
the reflex inhibition of respiration
cau sed by increased pressure on the
carotid sinus and cardio-aortic area.
. . . Epinephrine is a metabolic stimu-
lant, increasing oxygen consumption.
It increases the basal metabolic rate,
and causes hyperglycemia and glyco-
suria. The musculature of the gastro-
intestinal tract is relaxed by epineph-
rine and that of the pyloric and ileo-
ecal spincters, as a rule, is con-
tacted. The sphincters may react in
a variable manner. The splenic cap-

sule is contracted by epinephrine.
The human uterus is usually con-
tacted to a slight degree by epi-
nephrine. Epinephrine has very little
stimulating effect on the central nerv-
ous system and thus is not useful as
an analeptic. Restlessness, apprehen-
sion, headache and tremor, however,
may occur in some individuals after
therapeutic doses. . . . Ephedrine is an
alkaloid occurring in various plants
belonging to the genus Ephedra. A
Chinese herb containing ephedrine and
called Ma Huang was employed em-
pirically by native Chinese physicians
for over 5000 years. . . . Chen and
Schmidt began to study the pharma-
cologic actions of ephedrine in 1923.
Since then many investigatores have
contributed to the vast literature on
this drug, but have not yet definitely
established its mechanism of action.
. . . The fate of ephedrine in the body
is unknown. . . . The cardiovascular
actions of ephedrine are similar to
those described for epinephrine. . . .
The respiratory effects of ephedrine are twofold. It causes dilatation of the bronchial tubes by its action on the smooth muscle and it stimulates the respiratory center directly. Other central effects are stimulation of the central vasomotor centers, cortical and subcortical centers. The latter effect accounts for the insomnia, nervousness, tremor and motor restlessness occurring from overdoses of ephedrine. Spinal reflexes are increased. Other actions on smooth muscle are mydriasis caused by the action of ephedrine on the iris, relaxation of the musculature of the gastrointestinal tract and inhibition of peristalsis. The tone of the vesical sphincter is definitely increased and it may go into spasm. The isolated uterus usually is stimulated by ephedrine. The spleen contracts. The metabolic effects of ephedrine are similar to those described for epinephrine, but to a lesser degree. Graham and Willinsky used ephedrine to prevent and treat hypotension during spinal anesthesia in 1926.

"Neosynephrin is a sympathomimetic amine with one hydroxy group at the meta position on the benzene ring. The pharmacologic actions of neosynephrin are similar to those of epinephrine. Neosynephrin is much more stable and produces more lasting responses than does epinephrine. Nothing is known about the fate and excretion of this compound. Dodd and Prescott, in 1943, reported that methedrine was an effective vasopressor agent. Oliver and Schafer, in 1895, showed that an extract from the posterior pituitary gland exerted a vasopressor effect in animals and that it lasted longer than the effect produced by epinephrine. Melville and Stehle, in 1931, reported the effects of combining pitressin and ephedrine. They demonstrated a symbiotic effect on the cardiovascular system of dogs. Roman-Vega and Adriani and Heringman and Adriani have studied the vasopressor activity of oenethyl... found it to be a satisfactory vasopressor for the control of hypotension resulting from spinal anesthesia. Vasopressor drugs have a definite but limited value in clinical anesthesia. They are most useful in combating the hypotension associated with spinal anesthesia." 3 references.

J. C. M. C.


"A new synthetic analgesic, originally prepared by German chemists and known as drug 10820, was made available to this country following World War II. The original report was published by the U. S. Department of Commerce. The Council on Pharmacy and Chemistry of the American Medical Association has given this compound the nonproprietary name of methadon... In April 1946 clinical trials of the drug were instituted at the University of Minnesota Hospitals. Up to the present time methadon has been given to a total of 400 patients for relief of all types of pain. The drug has characteristics of both morphine and meperidine. Oral use of the elixir is almost as effective as the hypodermic injection. Ten mg. of methadon is as effective in relieving pain as 15 mg. of morphine or 150 mg. of meperidine. Adequate or complete relief of pain occurred in 81 per cent of 400 patients. Less sedation and euphoria occur with methadon than with morphine. Side effects occurred in 13 per cent of patients. Tolerance to the drug may develop. Addiction has not been definitely established." 11 references.

J. C. M. C.