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**a new concept in the treatment of
bronchial asthma**

*24 hours prophylaxis
with ONE morning and
ONE evening dose*

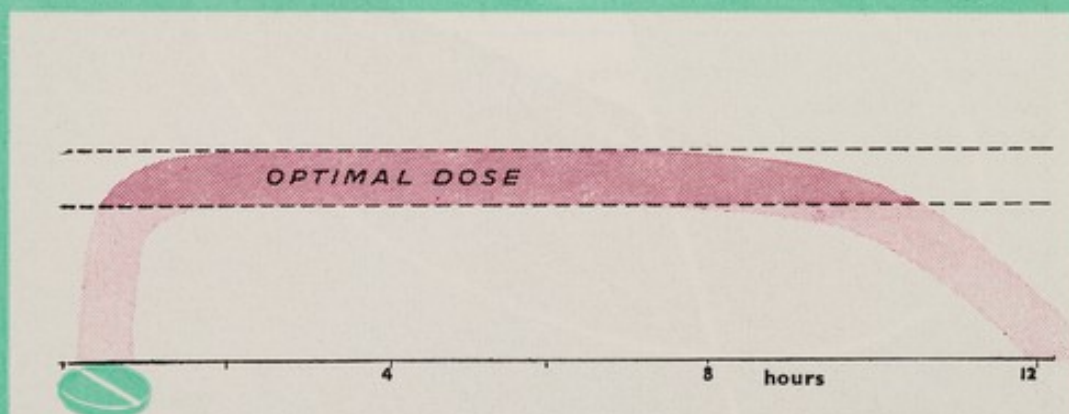
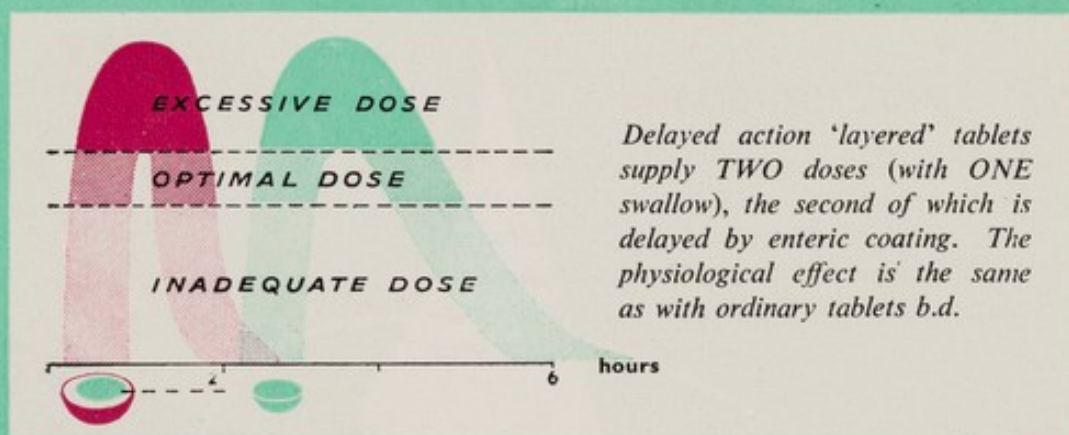
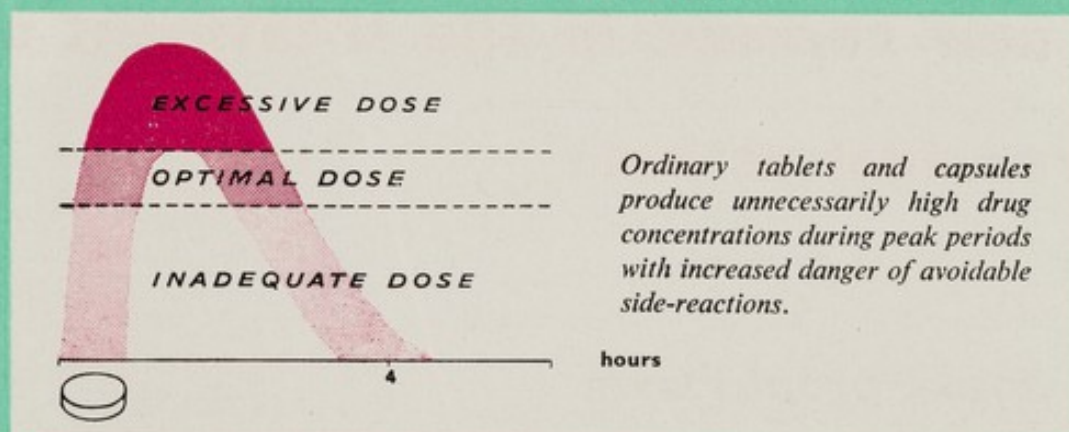
'IONEX - TABS'

WORK ROUND THE CLOCK

'asmapax'

ION-RESIN-BONDED EPHEDRINE COMPLEX

HOW 'ION-EX' ION-EXchange TABLETS DIFFER FROM ORDINARY AND 'LAYERED' TABLETS



In 'ionex-tabs' the sustained action is inherent in the drug resinate and does not depend on enteric coating. Controlled ionic exchange feeds the therapeutic agent into the blood stream evenly and without interruption for 10 to 12 hours independent of physiological factors.

WHAT IS SUSTAINED ACTION THERAPY

Sustained action therapy is a modern concept conveying a constant uniform absorption of a therapeutic agent supplied in one dose and sustaining an even optimum drug level in the tissues for 10 to 12 hours without producing excessive peak concentrations with resultant avoidable side effects.

PRESENT METHODS OF ACHIEVING DELAYED OR SUSTAINED ACTION

Most long-acting oral preparations now available depend upon the use of "layered" tablets or a mixture of variously sized granules. In each case the delayed or sustained action is obtained by varying the disintegration times of the separate layers or granules by *enteric-coating*. Such methods are liable to be uncertain in action because the release depends upon varying physiological factors such as peristalsis and the activity of the gastrointestinal fluid.

WHAT ARE THE ADVANTAGES OF 'IONEX-TABS'

'Ionex-tabs' consist of an active pharmacological agent bonded to an ion exchange resin. When the resinate is ingested an ionic exchange takes place; the drug is liberated and the cations, e.g., H^+ sodium or potassium are bonded to the resin. The process takes time and by using appropriate resins has been adjusted to produce what is considered to be the *optimum release rate* for each drug, ranging between 8 and 10 hours. The release rate is not affected by hydrogen-ion concentration or enzyme activity as the ionic concentrations in the gastro-intestinal tract are remarkably constant.

The fundamental advantage of 'ionex-tabs' is that they damp down the fluctuations of concentration in the tissue fluids of ingested pharmacological agents. To be more precise they both inhibit excessive concentrations which are responsible for toxic reactions and prevent falls in concentration to ineffective levels.

Both aspects of this damping action are important. Excessive concentrations which are often accepted for the sake of convenience in order to secure a prolonged action, in spite of their tendency to aggravate side effects, are unnecessary. Subliminal dosages do not occur. The constant losses due to drug destruction and excretion are constantly being made good. An *uninterrupted* as opposed to an *intermittent* pharmacological action results, lasting for 10 to 12 hours independent of varying physiological factors.

'Ionex-tabs' are an ideal vehicle for continuously conveying pharmacological supplements or correctives to the site of a disordered metabolic process.

'asmapax'**ionex-tabs****FOR PROPHYLAXIS IN BRONCHIAL ASTHMA****The role of prophylaxis in Bronchial Asthma**

Whilst constant, uninterrupted therapeutic effect is valuable in most clinical conditions, its value in Bronchial Asthma cannot be over-estimated, as a true 'prophylactic' effect can be achieved by maintaining an effective drug level in the blood and tissues for a prolonged period of time. The even, uninterrupted release of ephedrine from the resinate as presented in 'asmapax' 'ionex-tabs' keeps the bronchioles in such a state of relaxation during 10 to 12 hours that in most cases no development of the acute phase occurs.

The two cardinal principals which govern ephedrine therapy are;

1. *In cases of unremitting bronchospasm frequent small doses are more effective than infrequent large doses.*
2. *In cases of spasmodic bronchospasm ephedrine should be administered as soon as an attack threatens, or when the onset is predictable (e.g., nocturnal asthma, children's parties, etc.). It should be given as a prophylactic measure before the attack is expected to start. It is easier to prevent an attack than to stop one that has already started.*

Resin-bonding does not change the ephedrine therapeutically. It is merely a tool to ensure a constant supply of ephedrine, thereby providing:

1. 'prophylactic' action lasting 10 to 12 hours.
2. diminution in side effects.

The table below shows the hourly release rates of ephedrine ('in vitro') from 1 'asmapax' tablet containing the equivalent of $\frac{3}{4}$ grain ephedrine hydrochloride.

IN GASTRIC MEDIA			IN INTESTINAL MEDIA							TOTAL RELEASE
TIME IN HOURS	1	2	3	4	5	6	7	8		
RELEASE OF EPHEDRINE HYDRO- CHLORIDE	9.6	7.7	7.2	5.8	4.5	3.5	2.0	2.0	42 mg.	
<i>in mg.</i>										
<i>in grs.</i>	0.15	0.12	0.11	0.09	0.07	0.055	0.03	0.03	0.655 grs.	
RELEASE IN %	20%	16%	15%	12%	9½%	7½%	4%	4%	88%	

'asmapax'

'ION-EX' BRAND SUSTAINED ACTION TABLETS

FOR PROPHYLAXIS IN BRONCHIAL ASTHMA

FORMULA

<i>Ephedrine Resinate</i>	100 mg.
(containing equivalent of $\frac{1}{4}$ gr. Ephed. HCl.)	
<i>Theophylline</i>	65 mg.
<i>Bromvaletone</i>	150 mg.
<i>Mephenesin</i>	50 mg.

Controlled Ionic Exchange feeds *Ephedrine* into the blood stream evenly and without interruption for 8-10 hours, thereby providing a bronchodilatory effect lasting for 10 to 12 hours.

Theophylline and Ephedrine are mutually synergistic.

Bromvaletone—a safe non-habit-forming open-chain ureide sedative of minimal toxicity, minimizes the central effect of *Ephedrine*. Sedation is a desirable adjunct in the relief of bronchospasm.

Mephenesin potentiates the sedative effect of *Bromvaletone*.

DOSAGE SUGGESTIONS. One tablet on rising and one on retiring is sufficient for most cases as proven in clinical trials. The following dosage suggestions may be helpful as a rough guide in particular cases.

1. Vasomotor Rhinitis <i>Hay Fever and Perennial Rhinorrhœa</i>	One tablet twice a day.
2. Infection	One tablet <i>mane et nocte</i> as soon as upper respiratory infection is recognised.
3. Constant wheeze	One tablet twice a day.
4. On exercise (masked persistent bronchospasm)	One tablet on rising.
5. Occasional Asthma <i>e.g., triggered by social functions, interviews, etc.</i>	One tablet 1 to 2 hours before occasion.
6. Early Morning or on waking Asthma	One or two tablets <i>on retiring</i> .
7. Nocturnal Asthma	One or two tablets <i>on retiring</i> .

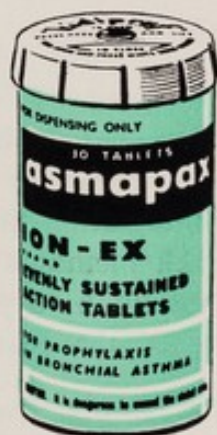
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'asmapax'

'ION-EX' BRAND

sustained action tablets



*Samples and literature
available on request*

Issued in:

SAFETY CONTAINERS OF 30 tablets

BOTTLES OF 250 tablets

BASIC N.H.S. COST 5/- for 30 tablets

AVERAGE COST OF PROPHYLAXIS 4d. PER DAY

A WORD ON COST

The cost of prophylaxis with 'asmapax' 'ionex-tabs' is less than that of conventional medication with intermittent dosages when it is considered that one 'asmapax' does the work hitherto performed by three, four, or more ordinary or 'layered' tablets.

THE SAFETY CONTAINER

To prevent accidents to children, 'asmapax' 'ionex-tabs' are issued in specially designed SAFETY CONTAINERS which a young child cannot open.

OTHER 'ION-EX' BRAND PRODUCTS:

'dexten' and 'barbidex'

provide evenly-sustained dexamphetamine and dexamphetamine plus phenobarbitone therapy respectively. See separate leaflet.

Issued by:

RESEARCH DEPT.
CLINICAL PRODUCTS LTD.
RICHMOND, SURREY, ENGLAND

