

Burchill Partners Pty Limited

**Wakame capsule coating
technology**

SCRIPT

Videotape Documentary


Version 1

**Produced by
Newton's Pty Ltd**


3rd Draft – 30 June 2000 (AND FINAL)

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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1



CORO1



CORO4



CORO3

Despite the advances of medical science, there are still some aspects of human health which have so far defied traditional medicine.

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2

In poorer countries, medical treatment is, if not primitive, costly to administer.



KID1



Slum.jpg



KID2

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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3

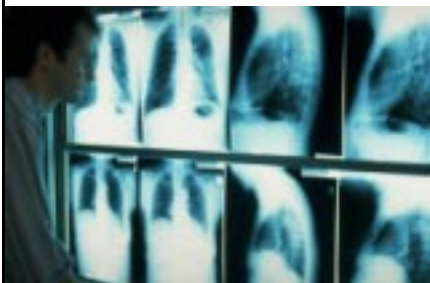
The sheer size of some problems, such as malaria, makes its eradication by conventional means still a dream.



COR12



COR11



COR14

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4



COR02



COR06



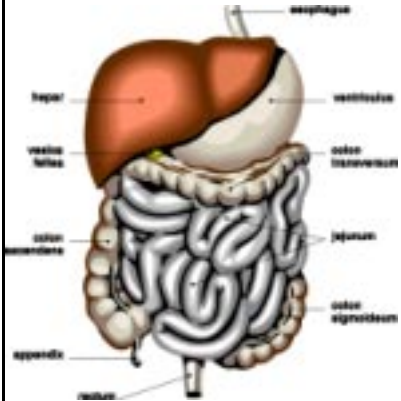
COR05

The world takes for granted that many drugs used in medicine, including vaccines, must be given intravenously.

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DIGEST3

The effectiveness of taking drugs orally is severely limited by the gauntlet they must travel, through the stomach acids.

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6



CYMB298

Captions overlay

**REDUCE DOSAGES
CUT COSTS
DEVELOP NEW DRUGS**

If the gauntlet could somehow be overcome, it could be possible to reduce dosages, cut pharmaceutical costs and foster the development of revolutionary drugs.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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At the Shimosoga Hospital in Kanagawa, Japan, director general Shintaro Tashiro was trying to overcome the traumatic problems of the aged and bed-ridden.

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8



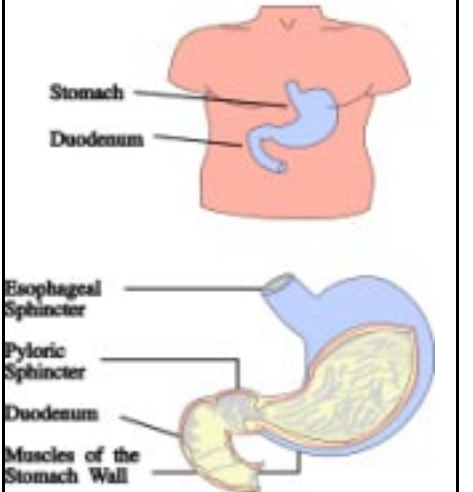

hospmachine.tif




capinglass.pict

He reasoned that toilet routine for the patients and the quality of life for hospital staff would improve considerably if quantities of beneficial Bifidus bacteria could be introduced live into the small intestine – the hard part was getting it safely through the acidic stomach environment.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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<p><u>The Stomach and Duodenum</u></p>  <p>Stomach</p> <p>Duodenum</p> <p>Esophageal Sphincter</p> <p>Pyloric Sphincter</p> <p>Duodenum</p> <p>Muscles of the Stomach Wall</p>			
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<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
<p data-bbox="150 260 185 316">9</p> 	<p data-bbox="618 260 1149 419">If delicate material could be delivered with precision, in a completely dry state, to the small intestine, it could revolutionise the pharmaceutical industry and patient care.</p>		

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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10



seaweed.jpeg



www/kelp



The means to this end has come from one of the humblest sources imaginable - common fresh seaweed, called wakame.

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11



www/seaweed2



www/seaweed1

This seaweed changes its nature as the surrounding environment swings from acidic, through neutral or mild alkaline. It was the key researchers were seeking.

12

some of david’s new vision of the close ups of the capsules – showing the coated and uncoated together.

This television story from Japan shows the sheer simplicity of the process of converting wakame into a protective coating which could change the way the world takes its medicine.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
<p>13</p> <p>TV NEWS STORY – VISION AND SOUND</p>	<p>Freshly steamed rice and miso soup – a typically Japanese breakfast menu.</p> <p>Here is wakame in the miso soup.</p> <p>This is especially prized.</p>		<p>Frisch gekochtes Reis und Miso-Suppe, das ist ein typisch japanisches.</p> <p>Hier ist Wakame in der Miso-suppe. Das ist besonders geschätzt bei Japanern.</p>
<p>14</p>	<p>Eating seaweed as a healthy food is of course well known, but recent research has shown wakame can be usefully employed when taking medicines and health foods.</p>		<p>Es ist natürlich sehr bekannt, Seetang wie Wakame als Reformlebensmittel zu essen, aber eine Untersuchung in letzter Zeit zeigte, dass Wakame sehr effektiv sein kann, wenn man sie bei der Einnahme der Medikamente verwendet. Lass mich erklären.</p>
<p>15</p>	<p>When taking medicines it would be ideal if the capsule carried on safely through the acidic stomach environment to be absorbed at the top of the small intestine.</p>		<p>Für die beste Wirksamkeit einer Arznei, die oral eingenommen würde, wäre es ideal, wenn die Kapsel unversehrt im Magensaft durchgeführt und erst im obersten Teil des Dünndarms absorbiert wird. Aber in Wirklichkeit löst sie sich meistens in der starken Säure im Magen.</p>

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
16	In reality, a great deal of medicine is adversely affected by the strong acid of the stomach, or in other cases, over-protected capsules fail to dissolve at all and are expelled with the faeces.		Es gibt ebenfalls Kapselierungsmittel, die sich gar nicht loesen und mit Exkrementen ausgeschieden werden, wenn die Kapsel zu dick ueberzogen ist.
17	It is said that Shintaro Tashiro, head of a Japanese hospital, one day during a meal, came up with the idea of coating capsules with wakame.		Shintaro Tashiro, Leiter eines japanischen Krankenhaus, ist eines Tages waerend des Fruestuecks auf die Idee gekommen, Kapseln mit Wakame zuueberziehen. Sie fragen wohl, warum Wakame?
18	He noticed that wakame used with vinegar dressing in seaweed salad completely retains its strength over time, yet wakame in miso soup quickly begins to break apart.		Also, er hat bemerkt: waehrend Wakame im Seetangsalat mit Essig voellig ihre Form und Staerke behaelt, beginnt sie in einer Miso-suppe bald zuzerfallen.
19	In other words, wakame resists dissolution in the acid environment of the stomach, yet soon breaks down as the environment changes to neutral or to weakly alkaline in the small intestine.		In anderen Woertern gesagt,haelt Wakame in der Saeure gegen Aufloesung fest, aber zerfaellt sie bald, wenn die Umgebung, wie im oberen Duenn darm, sich zu neutral oder leicht alkalisch veraendert.
20	It was a momentous observation.		

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
21	This was the start of efforts to design a drug delivery system using wakame.		Sofort haben wir versucht, Wakame Kapsel herzustellen.
22	Beginning with the fresh wakame – easily and cheaply obtainable in many countries – it goes into a blender for up to 30 seconds.		1. Einige frische Wakame nehmen. 2. sie in den Mixer tun und fuer 20 - 30 Sekunden arbeiten
23	The liquid is squeezed out, resulting in a thick green fluid with jelly-like consistency.		3. pressen und die Fluessigkeit sieben. Man bekommt dicke gruene gallertartige Fluessigkeit. Sehr zaeh, nicht wahr?
24	When it sets, it looks like this.		4. dann Gelatine hinzufuegen und in einen Behaelter eingiessen, damit sie sich befestigt. 5. wenn das fest wird, sieht das wie ein Pudding aus.
25	It melts again, just like icecream. It's heated in hot water and medicine capsules can be dipped and then put out on trays to solidify.		Im Wasserbad loest das sich wie Eis. Dann tunken wir die Kapseln darein, schuetteln Uebermass ab und auf die Tablette einzeln hinlegen, um sie zu verfestigen. Wir kuehlen die Kapseln langsam im Stunden.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
26	Next day, they look like this, completely dry and ready to go. They're fragments of wakame sticking to the surface.		Am naechsten Tag sehen sie so aus: voellig trocken ohne miteinander zu kleben. So sind Wakame Kapseln fertig. Sie sehen hier noch Wakamefrocken Auf der Oberflaeche.
27	Then came the test, to verify that wakame capsules actually did carry on through to the small intestine without dissolving in the stomach. The process was X-rayed.		Am naechsten Tag haben wir ein Experiment gemacht, um zu beweisen, dass die Wakame Kapseln wirklich bis zum Duenndarm getragen werden, ohne sich im Magen aufzuloesen.
28	Here's the situation, one hour after taking the capsules.		Wir haben einige Roentgenaufnahme von dem Prozess gemacht.
29	The wakame capsule can be clearly seen undissolved in the stomach.		Wollen wir die Roentgenbilder nach einer Stunde ansehen. Die unaufgeloeste Wakame Kapsel ist ganz klar im Magen zu sehen.
30	The effect is more clearly understood in laboratory conditions, using artificial stomach acid.		Als naechstes benutzen wir synthetisch hergestellte Magensaft.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
31	On the left is the wakame capsule. On the right is an ordinary capsule.		Im linken Glas ist eine Wakame Kapsel, und im rechten Glas eine herkoemmliche Kapsel. Ob die Wakame Kapsel, wie vorrausgesagt, ueberleben?
32	One hour later the ordinary capsule has easily dissolved and the contents are oozing out. This is the inherent problem with all conventional capsules.		Nach einer Stunde ist die herkoemmliche Kapsel einfach aufgeloeset, und der Inhalt fliesst aus. Aber andererseits Seite ist die Wakame Kapsel ganz heil geblieben.
33	The wakame capsule is unaffected.		
34	Now for the most telling experiment. The undissolved wakame capsule was transferred from the artificial stomach fluid to the artificial intestinal fluid.		Jetzt nun das wichtigste Experiment: wir verlegen die im Magensaft unaufgeloesete Wakame Kapsel ins syntetische hergestellten Darmsaft. Wird Sie sich aufloesen wie wir erwarten?

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
35	After 40 minutes it has obviously broken down, releasing its contents to be absorbed in the small intestine.		Nach einigen Minuten ist die Kapsel offensichtlich zerfallen, und das Inhalt der Kapsel ist bereit, im Duendarm absorbiert zu werden .
36	The capsule works precisely as Shintaro Tashiro planned – a significant milestone in medical history.		Also hat sich unsere Wakame Kapsel sich so verhalten wie Shintaro Tashiro beabsichtigt hat.
37	Some medical opinions -		Jetzt wollen wir die Meinung vom Experten im medizinischen Gebiet zuhoeren.
38	“Instead of protective coatings based on exceedingly long and complex formulas, or inert compounds compounds such as shellac, this wakame coating employs a traditional food element as the protective material. In using a traditional food, this technology is most significant.”		“Man versuchte bis jetzt ein Material chemisch zusammensetzen, das gegen der Saure widersteht aber im Alkali sich auflöst. Aber das hat noch ungeprüfte Faktoren bei sich. Wakame, auf der anderen Seite, hat schon lange Tradition als Lebensmittel, und ihre Sicherheit ist bereits bewiesen. Es ist sehr aufschlussreich, Wakame als Überzugsmittel zu benutzen.“ Und hier ist unsere Wakame Kapsel.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
39	“The wakame capsule will be able to reduce our intake of medicines by a significant amount, because it increases the medicine’s effectiveness.”		Wird es moeglich, die Einnahme der Arznei einigerma en zu reduzieren?
40	In the future, we may find wakame capsules employed as the ideal vehicle for many medicines.		Oder wird es dazu beitragen, die Wirkung von Arznei zu erhoehen?
41	This is really a breakthrough....an invention born from the wisdom of everyday life.		In Zukunft werden wir vielleicht viele Medikamenten sehen, die mit Wakame Kapseln geschuetzt sind. Das waere een Durchbruch. Es ist tatsaechlich eine Erfindung im Alltagsleben.
END VIDEOTAPE SEGMENT			

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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42



**Wakame capsule after
2 hours in stomach acid**

The significance of this discovery has already triggered imaginative responses from the makers of traditional capsules, the pharmaceutical companies and the medical profession.


<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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Wakame capsule after 2 hours in stomach acid and 1 hour in intestinal fluid



Wakame capsule after 2 hours in stomach acid and 2 hours in intestinal fluid

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
 <p data-bbox="150 703 618 799">Wakame capsule after 2 hours in stomach acid and 3 hours in intestinal fluid</p>			
<p data-bbox="150 836 618 959">43 David's new footage</p>	<p data-bbox="618 836 1149 1023">The wakame capsule is the very model of a sustainable invention, a low cost natural seaweed, with no side effects and capable of being adapted by the poorest countries for life-giving medical programs.</p>		

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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44



The top image shows a modern hospital building with a paved walkway and greenery. The bottom image shows a large brown glass bottle of Wakabi capsules with a green label. The label features the text '健康食品' (Health Food), 'わか物カプセル ビフィス菌' (Wakamono Capsules Bifidus Bacteria), and 'ワカビイ' (Wakabi-i) in large red characters. To the right of the large bottle is a smaller image of the product packaging, including a box and a smaller bottle.

Its use in this hospital for carrying the live bifidus bacteria safely to the very top of the small intestine, has more than adequately proven the theories. The well being of the patients testifies to that.

45

David's footage

It is a solution the world has been waiting for.

VISION –

ENGLISH

JAPANESE

GERMAN

46

It can bring medicine, like the malaria vaccines, into the reach of all people.



<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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47
Run David's footage, with overlay of needle.



It will throw new light on the use of drugs now administered through injection.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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48



It will cause a re-examination of the value of medicines used in cancer treatment and heart cases. It even has a role in veterinary science.


49



(ANIMATED VERSION)

With wakame, the possibilities and the opportunities appear to be endless.

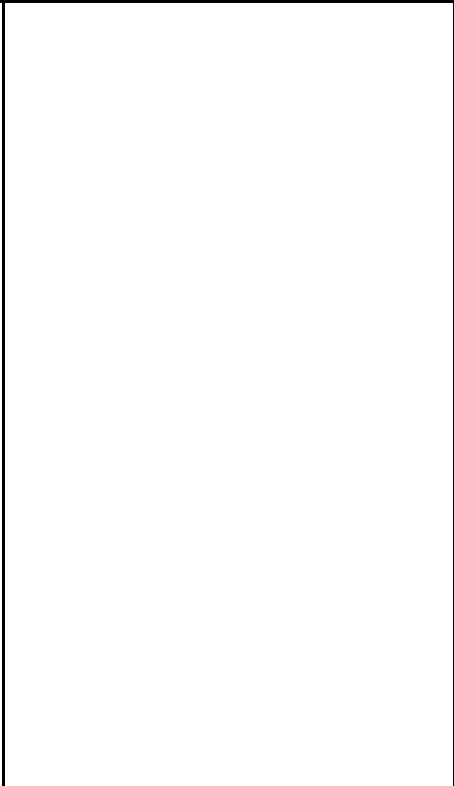
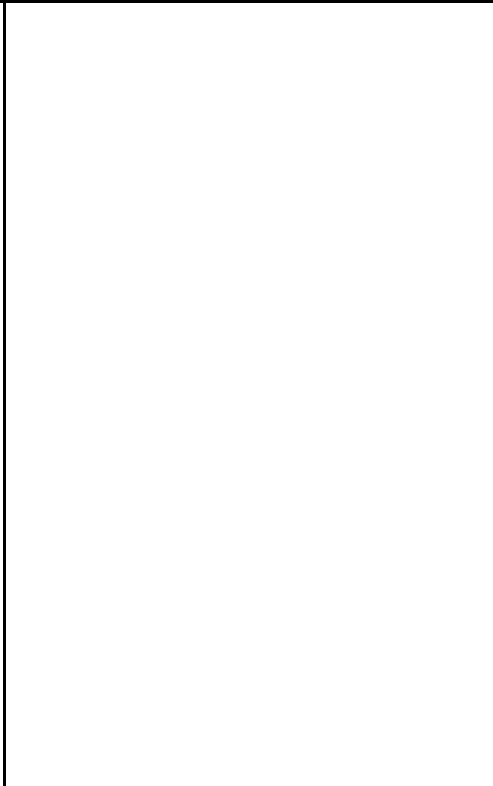
<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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<p>50</p>  <p>CAPTION: Gunter Pauli Head of the ZERI Foundation Geneva</p>	<p>The Wakame capsule technology is endorsed by the Zero Emissions Research Initiative, known as the ZERI Foundation, for its potential contribution to world health.</p>		
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ZERI heralds the start of the next industrial revolution, in which industry mimics nature's sustainable cycles.



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52




Human kind, rather than expecting the earth to produce more, learns to do more with what the earth produces.



53

From David's footage

The Wakame capsule could be at the forefront of this revolution.

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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 <p>CAPTION</p> <p>ZERI Foundation</p> <p>Email: phillip@zeri.org</p>			
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<p>Produced by</p> <p>BURCHILL PARTNERS PTY LIMITED </p> <p><i>burchilllogoamended</i></p> <p>Gold Coast Australia www.burchillpartners.com.au in association with</p> <p>Newton's  CORPORATE COMMUNICATOR newtons@onthenet.com.au</p>			
<p>Television story Thanks to Nihon Television Tokyo ©NTV 2000</p>			

<i>VISION –</i>	<i>ENGLISH</i>	<i>JAPANESE</i>	<i>GERMAN</i>
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CAPTION

The Wakame technology is showcased at Expo 2000 Hanover, Germany in the ZERI pavillion.