

# DUAL TULIP

HR-Chitosan hydrofiber hemostatic dressing

## Hemostatic & Anti-microbial dressing for gynecology

### Indication

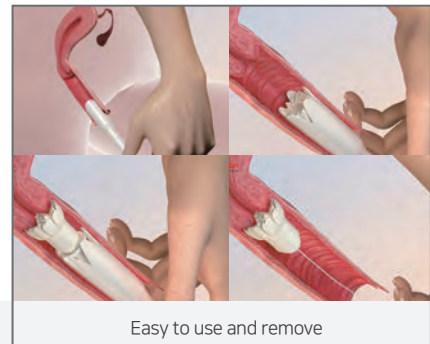
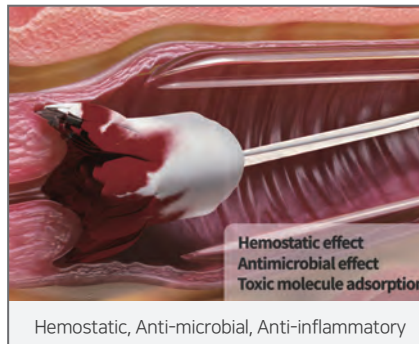
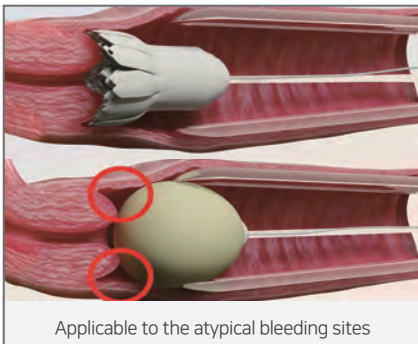
- After conization
- After a uterine cancer examination
- After Female inspection

Brand Name	DUAL TULIP V
Model No.	DTV0220200P
Size (cm)	Dressing Ø2.0 x 4.5
Packing	10 PACKS/Box

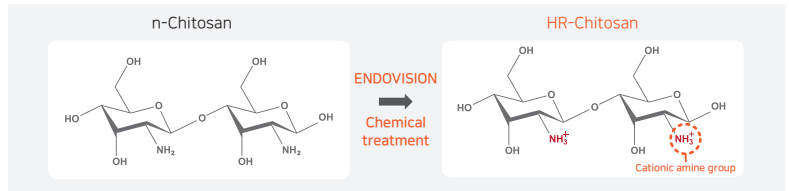


### Comparison

Feature	Benefit
Dressing Type / Applicator type	Gynecologist and patient-friendly
HR-Chitosan perfect functional Bio material created by ENDOVISION	Superior Hemostatic, Anti-microbial effect, and maintain PH balance & moisturizing of virginal
Anti-microbial effect	Against Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa, Candida albicans, Super bacteria (MRSA) : 99%
With 134 pieces of petal shape	With 134 pieces of petal shape
Moisturizing effect by gelation coating	Prevent the dry and infection, Manage PH Balance, Easy removal
Perfect design and function for cervix	Develop with Gynecologist and Patient together



# ENDOVISION HR-Chitosan (Hydron Reinforced Chitosan)



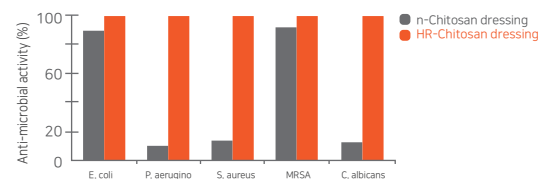
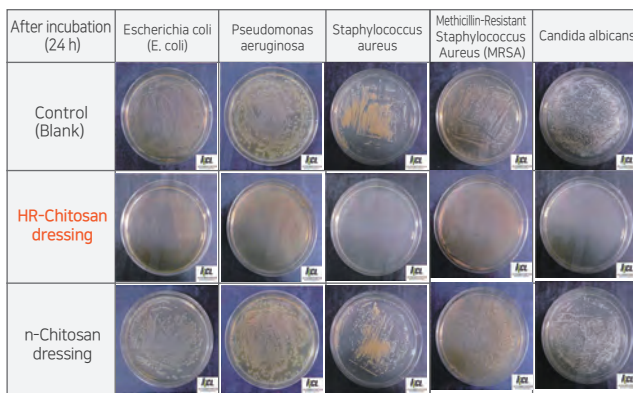
ENDOVISION'S Hemostatic wound dressing products are made of HR-Chitosan (Hydron Reinforced Chitosan) as the base material. HR-Chitosan, developed as a patented ENDOVISION's chemical treatment process, is chitosan with enhanced positive changes which can be main factors improving chitosan's functions including hemostasis, anti-microbial activity, toxic molecule adsorption, high absorption and moisturizing effect.

## 5 Effects of HR-chitosan



### Anti-microbial

99.9% anti-bacterial activity against force in Escherichia coli / Pseudomonas aeruginosa / Staphylococcus aureus / Candida albicans / Super bacteria (MRSA)

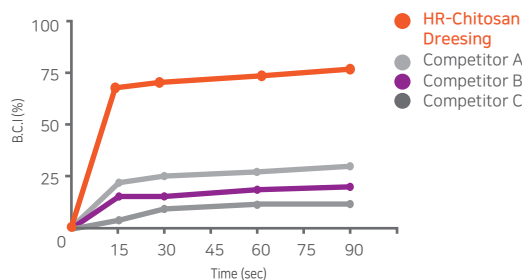


Anti-microbial activity (%)	Control	HR-Chitosan dressing	n-Chitosan dressing
Escherichia coli (E. coli)	-	99.9	88.4
Pseudomonas aeruginosa	-	99.9	8.3
Staphylococcus aureus	-	99.9	12.5
MRSA	-	99.9	11.3
Candida albicans	-	99.9	91.3



### Strong Hemostatic

Rapid Bleeding Control through interaction with Positive and negative charge

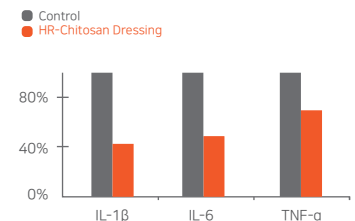
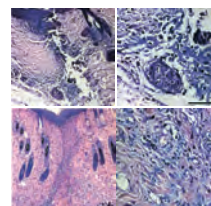


※ Blood Clotting Index (B.C.I.) =  $100 - \left( \frac{OD_t}{OD_b} \times 100 \right) (\%)$   
 - OD<sub>b</sub> : Average absorbance of blank  
 - OD<sub>t</sub> : Average absorbance of sample



### Anti-inflammatory

Suppresses up to 60 % or more of the expression level of inflammatory cytokines



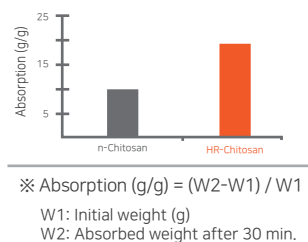
Group	IL-1β	IL-6	TNF-α
Control	1	1	1
HR-Chitosan dressing	0.365	0.432	0.663



### High Absorption and Moisturizing

More than 20 times absorption and moisturizing effect than product weight

Absorption (g/g)	HR-Chitosan dressing	n-Chitosan dressing
#1	23.56	9.33
#2	20.82	10.29
#3	21.00	10.35
#4	20.03	10.45
Average	20.640	10.105



### Toxic molecules adsorption

More than 99.8% of Ammonia generated by proteolysis can be deodorized

Deodorization (%)	Ammonia	Trimethyl amine
HR-Chitosan dressing	99.8	25.9
n-Chitosan dressing	45.7	8.8

