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# Zanamivir In The Management Of Influenza A & B

RELENZA®  
(Zanamivir For Inhalation)

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# RELENZA

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- Neuraminidase inhibitor
  - Delivers drug to the respiratory tract - the primary site of viral replication
  - Helps stop viral replication and may shorten the duration of influenza A & B symptoms
  - Reduces the risk of influenza infection
  - Established safety profile
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RELENZA prescribing information. GlaxoSmithKline; 2006.

# RELENZA

## DISKHALER® Delivery System



# Indications

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- RELENZA is indicated for the treatment of uncomplicated acute illness due to influenza A & B virus in adults and pediatric patients 7 years of age and older who have been symptomatic for no more than 2 days
  - RELENZA is indicated in adults and pediatric patients 5 years of age and older for prophylaxis of influenza
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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Clinical Pharmacology

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- RELENZA is delivered to the respiratory tract via inhalation
  - Low systemic bioavailability (4%-17%)
  - Renally excreted as unchanged drug
  - Does not affect cytochrome P450 isoenzymes
  - No drug interactions are predicted
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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Lack Of Influenza Vaccine Interaction

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- 138 patients received 1 dose of trivalent inactivated influenza vaccine; 70 received RELENZA 10 mg once daily for 28 days and 68 received placebo<sup>1</sup>
- No impairment of immune response to influenza vaccine observed<sup>2</sup>
- Use of RELENZA should not affect the evaluation of patients for annual influenza vaccination in accordance with CDC guidelines<sup>2</sup>

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<sup>1</sup> Webster A et al. *Clin Pharmacokinet.* 1999;36(suppl 1):51-58.

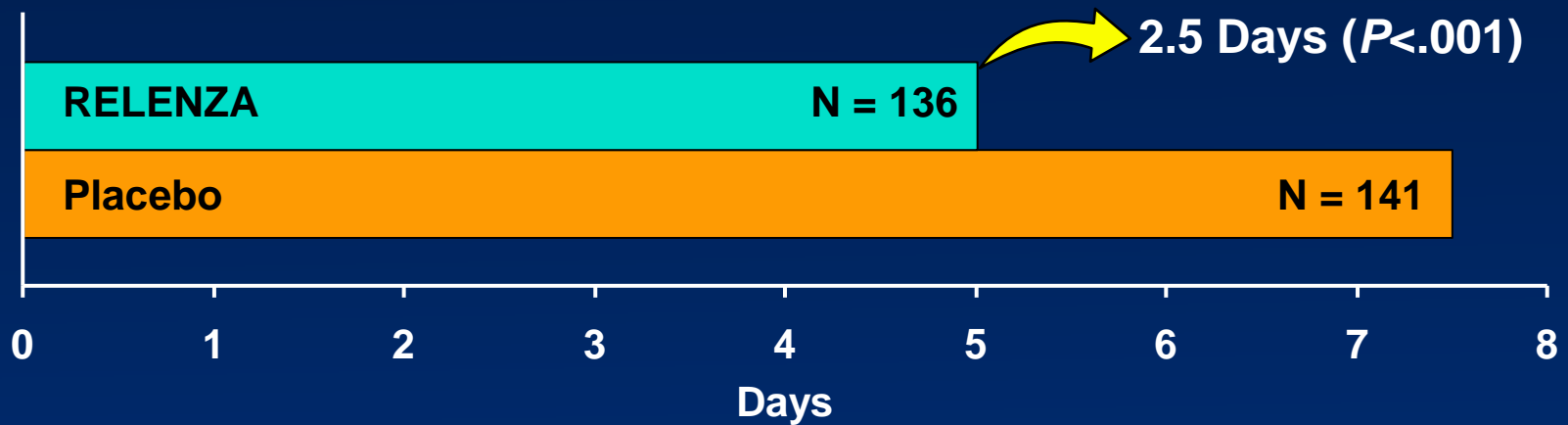
<sup>2</sup> RELENZA prescribing information. GlaxoSmithKline; 2006.

# RELENZA Shortened The Duration Of Influenza Symptoms

European Study, Influenza-Positive Population

N = 277 with laboratory-confirmed influenza

Median Time To Alleviation Of Influenza Symptoms

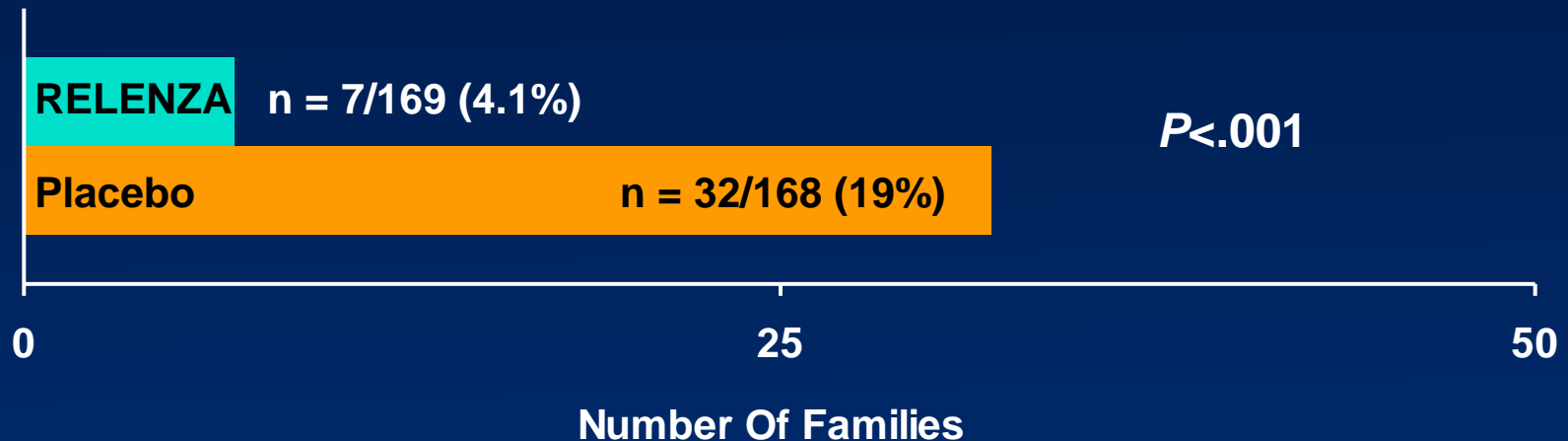


Mäkelä MJ et al. *J Infect.* 2000;40:42-48.

# Postexposure Prophylaxis Hayden Study

**N = 337 families with influenza-like illness in 1 member**

**Incidence Of Families In Which  $\geq 1$  Household Contact Had Symptomatic, Laboratory-Confirmed Influenza**

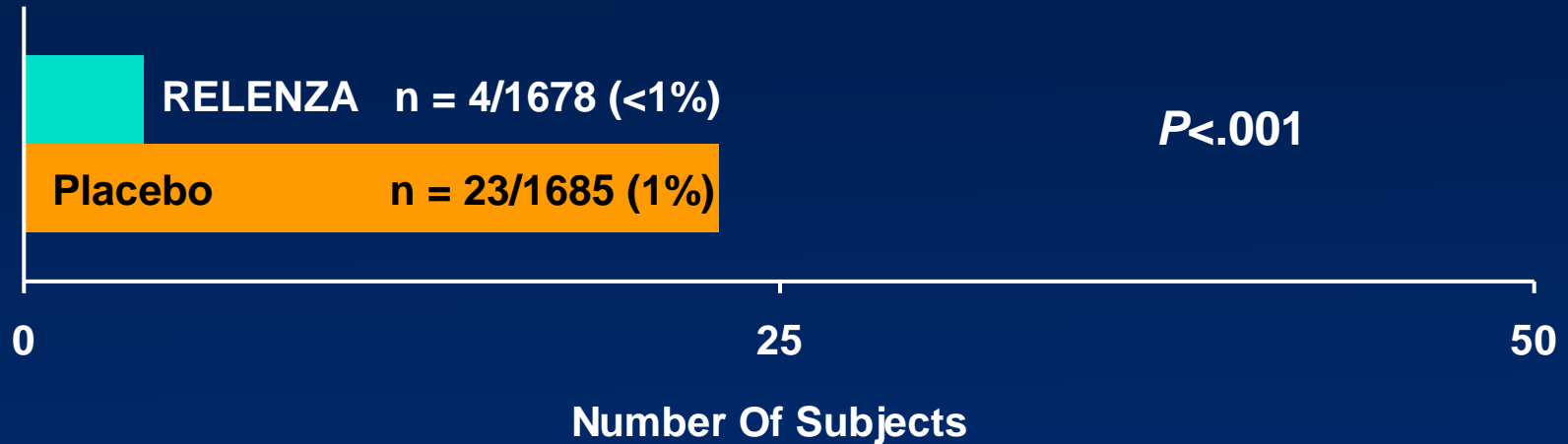


- 79% protective efficacy rate vs placebo

Hayden FG et al. *N Engl J Med.* 2000;343:1282-1289.

# Seasonal Prophylaxis In High-Risk Patients

N = 3363 at high risk\* for complications of influenza  
Incidence Of Symptomatic, Laboratory-Confirmed Influenza



- 83% protective efficacy rate vs placebo

\* High risk was defined as age  $\geq 65$  years and adults with chronic disorders of the pulmonary or cardiovascular systems or with diabetes mellitus.

Data on file, RLZ0604, GlaxoSmithKline.

# RELENZA Treatment Dosing

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- Breath-activated, nonaerosol oral DISKHALER<sup>®</sup>
- For maximum benefit, treatment with RELENZA should be initiated as soon as possible and within 2 days of symptom onset
- Recommended dose for treatment of influenza in adults and children  $\geq 7$  years of age is 2 inhalations (5 mg each) BID for 5 days

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RELENZA prescribing information. GlaxoSmithKline; 2006.

# RELENZA Prophylaxis Dosing

## Household Setting

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- Recommended dose of RELENZA for prophylaxis of influenza in adult and pediatric patients 5 years of age and older in a household setting is 10 mg once daily for 10 days<sup>1,2</sup>
  - The 10-mg dose is provided by 2 inhalations (one 5-mg blister per inhalation)
  - The dose should be administered at approximately the same time each day
  - There are no data on effectiveness of prophylaxis with RELENZA in a household setting when initiated more than 1.5 days after onset of signs and symptoms in the index case
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RELENZA prescribing information. GlaxoSmithKline; 2006.

# RELENZA Prophylaxis Dosing

## Community Outbreaks

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- Recommended dose of RELENZA for prophylaxis of influenza in adults and adolescents in a community setting is 10 mg once daily for 28 days
- The 10-mg dose is provided by 2 inhalations (one 5-mg blister per inhalation)
- The dose should be administered at approximately the same time each day
- The safety and effectiveness of prophylaxis with RELENZA have not been evaluated for longer than 28 days duration

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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Summary Of Adverse Events With $\geq 1.5\%$ Incidence During Treatment In Adults And Adolescents

Adverse Event	RELENZA 10 mg BID (%) (n = 1132)	Placebo (%) (n = 1520)
Headaches	2	3
Diarrhea	3	4
Nausea	3	3
Vomiting	1	2
Nasal signs and symptoms	2	3
Bronchitis	2	3
Cough	2	3
Sinusitis	3	2
Ear, nose, and throat infections	2	2
Dizziness	2	<1

RELENZA prescribing information. GlaxoSmithKline; 2006.

# Summary Of Adverse Events $\geq 1.5\%$ Incidence During Treatment In Pediatric Patients

Adverse Event	RELENZA 10 mg BID (%) (n = 291)	Placebo (%) (n = 318)
Ear, nose, and throat infections	5	5
Ear, nose, and throat hemorrhage	<1	2
Asthma	<1	2
Cough	<1	2
Vomiting	2	3
Diarrhea	2	2
Nausea	<1	2

RELENZA prescribing information. GlaxoSmithKline; 2006.

# Summary Of Adverse Events With $\geq 1.5\%$ Incidence During 10-Day Prophylaxis Studies In Adults, Adolescents, and Children\*

Adverse Event	Contact Cases (%)	
	RELENZA (n = 1068)	Placebo (n = 1059)
Viral respiratory infections	13	19
Cough	7	9
Headaches	13	14
Nasal signs and symptoms	12	12
Throat and tonsil discomfort and pain	8	9
Nasal inflammation	1	2
Muscle pain	3	3
Feeding problems (decreased or increased appetite and anorexia)	2	2
Nausea and vomiting	1	2
Malaise and fatigue	5	5
Temperature regulation disturbances (fever and/or chills)	5	4

• In prophylaxis studies symptoms associated with influenza-like illness were captured as adverse events; subjects were enrolled during a winter respiratory season during which time any symptoms that occurred were captured as adverse events.

RELENZA prescribing information. GlaxoSmithKline; 2006.

# Summary Of Adverse Events With $\geq 1.5\%$ Incidence During 28-Day Prophylaxis Studies In Adults, Adolescents, and Children\*

Adverse Event	RELENZA (%) (n = 2231)	Placebo (%) (n = 2239)
Headaches	24	26
Throat and tonsil discomfort and pain	19	20
Nasal signs and symptoms	12	13
Ear, nose, and throat infections	2	2
Cough	17	18
Viral respiratory infections	3	4
Muscle pain	8	8
Musculoskeletal pain	6	6
Arthralgia and articular rheumatism	2	<1
Feeding problems (decreased or increased appetite and anorexia)	4	4
Nausea and vomiting	2	3
Diarrhea	2	2
Temperature regulation disturbances (fever and/or chills)	9	10
Malaise and fatigue	8	8

\* In prophylaxis studies symptoms associated with influenza-like illness were captured as adverse events; subjects were enrolled during a winter respiratory season during which time any symptoms that occurred were captured as adverse events.

RELENZA prescribing information. GlaxoSmithKline; 2006.

# Important Safety Information

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- **Patients should be instructed in the use of the delivery system. Instructions should include a demonstration whenever possible**
- If treatment with RELENZA is considered for a patient with underlying airways disease, the potential risks and benefits should be carefully weighed
- If a decision is made to prescribe RELENZA for such a patient, this should be done only under conditions of careful monitoring of respiratory function, close observation, and appropriate supportive care including availability of fast-acting bronchodilators

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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Important Information

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- RELENZA is not recommended for treatment or prophylaxis of influenza in individuals with underlying airways disease, such as asthma or COPD, due to risk of serious bronchospasm
  - RELENZA has not been proven effective for treatment of influenza in individuals with underlying airways disease
  - RELENZA has not been proven effective for prophylaxis of influenza in the nursing home setting
  - RELENZA is not a substitute for early vaccination on an annual basis as recommended by the ACIP
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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Warnings

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- **RELENZA IS NOT RECOMMENDED FOR TREATMENT OR PROPHYLAXIS OF INFLUENZA IN INDIVIDUALS WITH UNDERLYING AIRWAYS DISEASE, SUCH AS ASTHMA OR COPD**
- **Serious cases of bronchospasm, including fatalities, have been reported during treatment with RELENZA in patients with and without underlying airways disease. Many of these cases were reported during postmarketing and causality was difficult to assess**

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RELENZA prescribing information. GlaxoSmithKline; 2006.

# Warnings

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- **RELENZA SHOULD BE DISCONTINUED IN ANY PATIENT WHO DEVELOPS BRONCHOSPASM OR DECLINE IN RESPIRATORY FUNCTION**
  - **Immediate treatment and hospitalization may be required**
  - **Safety and efficacy have not been demonstrated in patients with high-risk underlying medical conditions**
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RELENZA prescribing information. GlaxoSmithKline; 2006.