

## Symptomatology of Family Contacts of Influenza Positive and Negative Patients During Influenza Season

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**Background:** Influenza causes epidemic disease with significant spread within family units. Rapid diagnostic tests to include PCR are useful in case identification, cohorting, and antiviral therapy. In patients without virologic diagnosis, severity and presence of symptoms may be helpful in those with influenza positive contacts. **Objective:** The purpose of this study is to determine if symptomatology differs between family members of patients with and without proven influenza infection during a local influenza epidemic. We investigated presence and height of fever and other typical influenza symptoms in order to determine these differences. **Design/Methods:** Patients seen during the 2007-08 influenza season were enrolled if presenting with fever and respiratory symptoms. Accompanying family members were recruited for enrollment regardless of symptomatology. Study subjects reported symptoms by questionnaire at the time of clinic visit and were followed-up by telephone three weeks later. Diagnosis of influenza was made by nasal wash and subsequent viral culture and RT-PCR. **Results:** 222 subjects were enrolled. Of 170 symptomatic subjects (100 pediatric patients and 70 symptomatic family members), follow-up was available for 112. 15 had influenza B, 35 had influenza A, and 7 had other viruses. The remaining 56 subjects with no virus isolated were further analyzed. Symptomatic patients with family members without influenza (N=41) were compared to subjects with a family members with confirmed influenza (N=15). Subjects with flu-positive family members were more likely than those with flu-negative family members to have fever and less likely to have rhinorrhea. Other symptoms between the groups were not significant.

**Subject Symptoms**

	Family flu + n=15	No flu + n=41	p value
number with fever	14	25	0.02
height of fever	102.1	101.8	0.5
number with abdominal pain	4	11	1
number with body aches	6	15	1
number with cough	13	35	1
number with diarrhea	2	6	1
number with headache	7	18	1
number with rhinorrhea	10	37	0.0479
number with vomiting	0	5	0.3

**Conclusions:** Patients with family members with influenza infection have few differences in symptomatology as compared to those patients without flu-positive contacts. Use of clinical presentation in diagnosis of influenza virus infection in PCR-negative patients with flu-positive family members is unlikely to be useful in determining influenza infection.