

## Vaginal Candidiasis

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*Candida albicans* is the causal organism for vaginal yeast infection. This condition is also known as vaginal candidiasis. *Candida albicans* is a widespread organism found throughout the world. It exists in small amounts in **the vagina**, the mouth, the digestive tract, and on the skin without causing disease or symptoms (approximately 25% of women without disease or symptoms have this organism present).

Symptoms appear when the number of *Candida albicans* becomes larger in relation to the other microorganisms that normally inhabit the vagina. *Candida albicans* grows rapidly when the vagina has certain favorable conditions (for example, moistness) or when it is difficult for other microorganisms to survive (for example, when the woman is on antibiotics) or when the woman immune system is lowered (for example, in pregnancy). This causes the imbalance in the “vaginal environment” that leads to a vaginal yeast infection.

Patients with this infection will complain of

1. Severe vaginal itchiness that make them lose sleep and unable to concentrate at work
2. Vaginal discharge which is cheesy like.
3. Burning painful vaginal sensation due to scratching and even application of home-made remedies.

Recent studies suggest that symptomatic vaginal candidiasis

1. Is due to an exaggerated immunological response to the presence of candida, rather than a failure of immune mechanisms.
2. 90% is due to candida albicans while the remainder is due to candida glabrata, candida tropicalis, and rarely due to Trichosporon species.

### **Incidence and prevalence:**

- This is difficult to gauge as many women self-treat using over the counter (OTC) medication. A Swedish survey of OTC and prescribed anti-fungals for vaginal candidiasis in the mid-1990s, showed about 90 cases per 1,000 women in the age group 15 - 45 years which is about 9%.

- It is undoubtedly common and estimated to affect about 75% of women in their reproductive years. Meanwhile 10-20% of women have **asymptomatic** vaginal colonization with candida species.
- Peak incidence age 20 - 40 years

### **Risk factors:**

- Pregnancy
- [Diabetes mellitus](#)
- Treatment with broad spectrum antibiotics (occurs in 28-33%).
- Chemotherapy
- Vaginal foreign body
- Contraceptives may predispose to recurrent vulvo-vaginal candidiasis - but evidence is conflicting.

### **Investigations**

- Routine culture not required. Clinical diagnosis is the usual method.
- In suspected bacterial/resistant or complicated infection, culture swabs from anterior fornix or lateral vaginal wall are taken for culture and sensitivity.
- Can test vaginal pH, but this is rarely used in practice and there is little evidence to support its use.
  - pH 4.0 - 4.5 is normal and not altered by presence of candidiasis.
  - pH >5.0 suggests bacterial vaginitis

### **Management**

#### **Non-drug management:**

- Loose-fitting, natural fibre underwear. This is to promote airing.
- Avoidance of topical irritants
- Avoid moistness. Keep dry.
- Good hygiene.

#### **Drugs:**

(and their total estimated cost per treatment)

##### **1. Oral route**

Flucanazole ( Diflucan) 150mg as a single dose	RM 30.00
Itracanazole ( Sporonox) 200mg bid x 1 day	RM 32.00

## 2. Vaginal route

Cotrimoxazole ( Canestan) 500mg vaginal tablet single dose	RM 13.50
Econazole ( Prevaryl)150mg depot ovule bid x 1 day	RM 31.00
Butoconazole (Gynofort) 1 applicator single dose	RM 48.90
Nystatin vaginal tablet 50,000 u two tablets daily x 14 days	RM 14.00

### Why do we need an alternative treatment?

No exact cause is found why this occurs in some women and not in others. Chronic candidiasis is seen more often in immuno-compromised female patients for example, diabetic patients as well as HIV positive patients. Furthermore, resistance to “older” antifungal drugs is on the increase. Hence, newer antifungals like Butoconazole are now on the market but at higher cost to patient.

In view of antifungal drug resistance, the search for other alternative treatment is only logical. Thus, the “*path-Away*” formulation. **“*Path-Away*” Formulation is an all natural antifungal treatment which was introduced by Mr. Arthur V Martin.**

This formulation is a feasible option for treatment of vaginal candidiasis because

1. It is 100% natural.
2. Had been used for antifungal treatment the last 7 years.
3. Lab test as well as field testing has shown no resistance in those 7 years.
4. Eradication of fungi with “*Path-Away*” in other areas such as hospital faculties has no known side effects to patients and staffs.

In fact, a lot can be learnt from the experts of Arthur V. Marti Associates, Inc. and from their protocols of managing fungal infestation using “*Path-Away*.”.

Similar protocols can be used as guidelines in managing cases of chronic vaginal candidiasis in women. This will be the area of future research.

## **Study : “*Path-Away*” formulation and Vaginal Yeast Infection.**

Currently, a prospective study is being carried out to assess the effectiveness of “*Path-Away*” formulation and Vaginal Yeast Infection. The study, to date, has 27 female patients who complained of “itchy vaginal discharge” due to “yeast infection”. “*Path-Away*” vaginal gel is applied to all these patients digitally and they were followed up 7 days later.

These are the findings:

1. 20 out of 27 patients have achieved complete clinical cure (they have no more complaints).
2. 7 of the remaining patients had reduced symptoms.
3. No side effects of the “*path-Away*” formulation when applied in vaginal area.
4. 10 patients voluntarily reported a surprising “cooling effect” upon application of the vaginal gel which gave them immediate relief!

(Other antifungals have been reported to produce a burning sensation once applied in the vagina, which can be painful and intense! No other pharmaceutical antifungal preparations ever had the same “cooling” effect in women with vaginal yeast infection)

## **Other “alternative” treatments:**

Many “vaginal hygiene wash” are available in Malaysia (for example betel leaves’ juice), these are sold over the counter but they are marketed without any laboratory or/and clinical studies.

## **Suggestions:**

To conduct a research on “*Path-Away*” on patients with chronic candidiasis is the next step. This will involve development of vaginal gel with a practical applicator for patient’s compliance. It will also involve the formulation of “*Path-Away*” antifungal crème for adjacent vulval candidiasis (which is often seen in women with chronic yeast infection). For their daily use, a formulation is needed for daily wash. (For their spouse/partner, an oral antifungal tablet is readily available, and recommended to be taken. This is to avoid re-infection to the woman).

## **Potential market:**

The aim should be primarily towards women with chronic vaginal candidiasis. Once the formulations above are studied and proven to break the “cycle” of chronic candidiasis, the demand for it will be rocket high.

In a Swedish population as mentioned above, 9% of women have candidiasis. This figure is even higher in “moist” tropical countries.

“*Path-Away*” formulation will also be favoured by women because it is an all natural product.