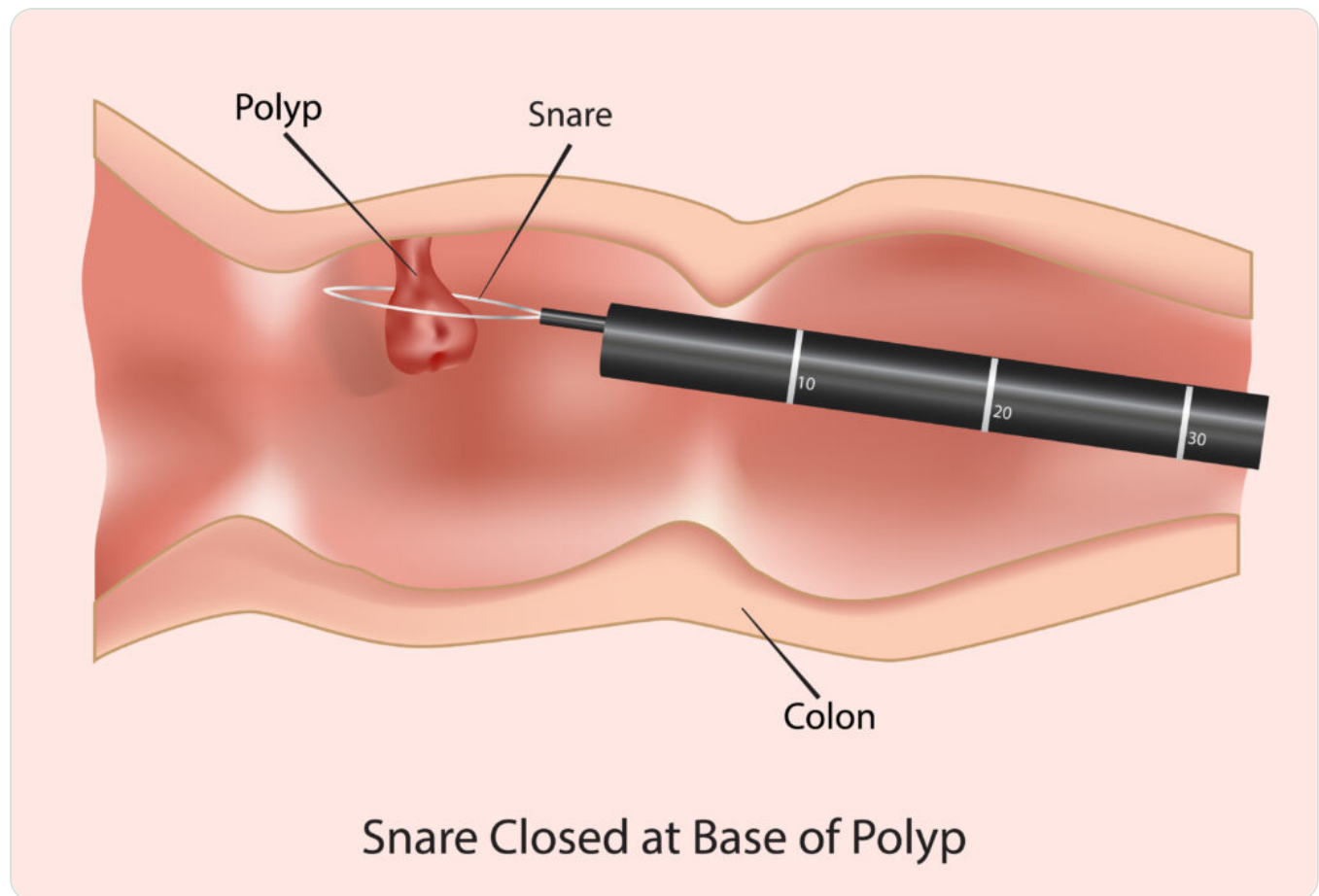


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Intestinal Polyps: A Surgical Guide to Types, Risks, and Detection via Colonoscopy

What are Intestinal Polyps?

Intestinal polyps are small growths or nodules that form in the lining of the inside of the large intestine (colon) or rectum. Most polyps are harmless, but certain types, called **adenomas**, can develop into cancer over time - a process that takes many years.

Bowel cancer (colorectal cancer) arises from a polyp in almost all cases. Therefore, **early detection and removal** of polyps through a colonoscopy is the most effective method for preventing colorectal cancer.

Histological Types of Intestinal Polyps

Polyps are classified according to how they look under a microscope (histology). Their type is crucial for their risk of developing into cancer.

1. Precancerous Polyps (Neoplastic)

These polyps have the potential to become malignant (cancerous):

Type	Description and Malignancy Risk
Adenomas	The most common type of precancerous polyp. They account for approximately 70% of all polyps and are the primary precursor to colorectal cancer.
Serrated Polyps	A newer group that also has the potential to develop into cancer, often via a different genetic pathway than adenomas. They are divided into subgroups such as Sessile Serrated Lesions (SSL) .

2. Harmless Polyps (Non-Neoplastic)

These polyps generally carry no risk of developing into cancer and rarely require further follow-up:

- **Hyperplastic Polyps:** Very common and considered harmless, especially if they are small and located in the rectum.
- **Inflammatory Polyps:** Usually related to inflammatory bowel diseases such as Colitis Ulcerosa.

Dysplasia: The Severity in Adenomas

Dysplasia describes how abnormal the cells in a polyp are. The grade of dysplasia is the most important factor determining the risk that the polyp is already cancerous or will become so.

Dysplasia Grade	Description	Monitoring/Treatment
Low-grade dysplasia	The cells are slightly abnormal. The risk of cancer development is low, but the polyp must be completely removed.	Removal during colonoscopy (Polypectomy).
High-grade dysplasia	The cells are very abnormal and resemble cancer cells. This is the final step before actual invasive cancer.	Rapid and complete removal, as there is a high risk that the polyp conceals an early stage of cancer.

Screening Programme in Denmark: Why Colonoscopy is Key

The Danish **surveillance programme** for [intestinal polyps](#) is based on findings made during a **colonoscopy** (endoscopic examination of the large intestine). The purpose is to remove adenomas and SSLs before they become dangerous.

The follow-up intervals after a polyp has been removed are determined by the doctor (usually a gastroenterologist or [surgeon](#)) based on:

1. The number of removed polyps.
2. The type (histology) of the polyps (e.g., adenoma vs. hyperplastic).
3. The grade of dysplasia (low- vs. high-grade).
4. The size of the polyps.

Previous Findings	Recommended Follow-up Interval
Low risk (Few, small adenomas with low-grade dysplasia)	5-10 years

Previous Findings	Recommended Follow-up Interval
Medium risk (Several adenomas or one large adenoma)	3 years
High risk (Several large adenomas, high-grade dysplasia, or Serrated Polyps)	1 year

Important: If you have a family history of bowel cancer or polyps, your individual surveillance programme may differ.

Treatment: Removal of Intestinal Polyps

The goal of treatment is always **complete removal** of the polyp.

1. Polypectomy during Colonoscopy (Standard Treatment)

The primary treatment is **Polypectomy** - removal of the polyp during a **colonoscopy**.

- **Small polyps** are often removed with a small pair of forceps (biopsy forceps).
- **Larger polyps** are removed with an electrical snare.
- **Early Cancer in a Polyp:** If a polyp is removed completely and the histology shows an early stage of cancer without deep invasion, removal during the colonoscopy may be the only necessary treatment (curative).

2. Surgical Removal

Surgery is necessary if:

- The polyp is **very large** and cannot be removed safely via colonoscopy.
- **High-grade dysplasia** or cancer is found in a polyp that was **not completely removed** via colonoscopy (i.e., there is a risk of remaining abnormal cells).
- The cancer in the polyp is **invasive** and requires a section of the bowel to be removed (**resection**) to ensure clear margins and remove any potentially involved lymph nodes.

Conclusion: Prevention Through Colonoscopy

Intestinal polyps are a common but manageable condition, frequently seen during colonoscopy. Knowledge of histological types, especially adenomas and serrated polyps, and their risk of dysplasia is essential.

At Kirurgen.dk, we emphasise correct **investigation** and **treatment**, where **colonoscopy** plays the most vital role - both in diagnosis and in the preventive removal of potentially dangerous growths.

If you have symptoms, belong to a risk group, or simply wish to understand more about **colonoscopy** and polyps, we are ready to advise you.

Reference List (PubMed-based Sources)

General Background and Prevention

1. Intestinal Polyps as a Precursor to Cancer (The Adenoma-Carcinoma Sequence):

- **Source:** Leslie, A., Carey, F. A., Steele, R. J., & Guyan, P. M. (2002). The adenoma-carcinoma sequence. *British Journal of Surgery*, 89(7), 842-852.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/12109033/>
- **Supports:** The claim that bowel cancer almost always arises from a polyp (adenoma) and that removal prevents cancer.

2. The Effect of Colonoscopy and Polypectomy on the Incidence of Colorectal Cancer:

- **Source:** Zauber, A. G., Winawer, S. J., O'Brien, M. J., Lansdorp-Vogelaar, I., van Ballegooijen, M., Hankey, B. F., Shike, M., Davies, R. J., Fromkes, J. J., Kewenter, J., & Wayne, J. D. (2012). Colonoscopic polypectomy and long-term prevention of colorectal-cancer deaths. *The New England Journal of Medicine*, 366(8), 687-696.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/22355959/>
- **Supports:** The importance of colonoscopy as a preventive method and that polyp removal reduces mortality from colorectal cancer.

Histological Types and Risks

3. Classification and Risk of Serrated Polyps (Sessile Serrated Lesions - SSL):

- **Source:** Bettington, M., Walker, N., Rosty, C., Brown, I., Clouston, A., Goh, R., Weninger, M., Embasse, N., Kana, R., & Appleyard, M. (2016). Sessile serrated adenomas (polyps) represent a pathway for colorectal cancer development. *Gut*, 65(2), 333-342.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/25501302/>
- **Supports:** The classification of precancerous polyps and the inclusion of serrated polyps/SSL in the group with malignant potential.

4. Dysplasia (Low- and High-Grade) as a Risk Factor:

- **Source:** Dekker, E., Rex, D. K., Anastassiades, G., Arebi, N., Bull, P., Ciaccio, E. J., Clark, M., Colonoscopy Quality Improvement Initiative (CQII) International Expert Group, East, J. E., Farhat, S., Fasoli, M., Fini, L., Halligan, S., Höglund, P., Hurlstone, P., Jover, R., Kaminski, M. F., Kudo, S. E., Løberg, M., ... Gschmeidler, H. (2015). Colorectal Polyp and Cancer Surveillance; Clinical guidelines and quality measures. *United European Gastroenterology Journal*, 3(6), 493-503.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/26688753/>
- **Supports:** The importance of dysplasia (especially high-grade dysplasia) as the most significant factor for cancer risk and as a guide for treatment strategy.

Monitoring and Treatment

5. Principles for Follow-up Intervals After Polypectomy:

- **Source:** European Society of Gastrointestinal Endoscopy (ESGE) guideline for post-polypectomy surveillance: update 2020.
- **Source (related):** Hassan, C., Quintero, E., Dumonceau, J. M., Regula, J., Brandao, C., Chaussade, S., Dekker, E., Dinis-Ribeiro, M., Ferlitsch, M., Freitas, D., Gralnek, I., Jover, R., Kalager, M., Loberg, M., Machado, J., Mazzotti, F., Repici, A., Rubenstein, J., Simon, H. W., & Stoffel, E. (2020). Post-polypectomy colonoscopy surveillance: European Society of Gastrointestinal Endoscopy (ESGE) guideline-update 2020. *Endoscopy*, 52(9), 687-707.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/32683839/>
- **Supports:** The clinical guidelines forming the basis for the mentioned surveillance intervals (1, 3, 5+ years) based on the number, type, and size of polyps.

6. Surgical Treatment vs. Endoscopic Removal of Early Cancer in a Polyp:

- **Source:** Sunkara, T., & Gaduputi, V. (2018). Endoscopic treatment of colorectal polyps with early cancer. *World Journal of Gastroenterology*, 24(25), 2686-2697.
- **Link:** <https://pubmed.ncbi.nlm.nih.gov/29991873/>
- **Supports:** The criteria for when a polyp containing early cancer can be treated curatively endoscopically (polypectomy) versus when surgical resection is required.