FRECCIAROSA

HEALTH GUIDE

OCTOBER 2026 EDITION

edited by

FONDAZIONE Incontra donna
OCCUPIAMOCI DI SALUTE

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FRECCIAROSA

HEALTH GUIDE

October 2026 Edition

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AIMN Associazione Italiana di Medicina Nucleare Imaging Molecolare e Terapia

AIRO Associazione Italiana Radioterapia e Oncologia clinica
LA CURA DI PRECISIONE

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ASSOCIAZIONE ITALIANA PER LO STUDIO DEL PANCREAS

AIT ETS ASSOCIAZIONE ITALIANA TIROIDE ENTE DEL TERZO SETTORE

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LETTER FROM THE MINISTER OF HEALTH



Dear travellers,

I am delighted to join you for the sixteenth edition of the **FrecciaRosa** campaign, which every year brings a culture of prevention on board our trains.

Promoted by the **IncontraDonna Foundation** together with the **Ferrovie dello Stato Italiane Group** and held under the patronage of the **Ministry of Health** and the **Presidency of the Council of Ministers,** this event has become a genuine tradition over the years. Year after year, thousands of women and men have met the campaign's volunteers on regional trains, on Intercity services and on the Frecce, and have been offered free examinations, cancer consultations and information on their journey.

The scale of this mobilisation is remarkable. It is a major exercise in prevention, entirely in keeping with the principles that have guided, and continue to guide, this Government's work. From the day we took office we have worked to put health back at the centre of debate and of investment, with an unprecedented allocation of resources and with practical measures to bring us closer to the public and to patients, above all the most vulnerable.

We have put prevention at the heart of what we do, because prevention is what secures the future. We have done so through communication campaigns encouraging a healthy lifestyle at every stage of life, and by expanding free screening programmes. One measure makes me particularly proud, because it speaks directly to women's health: **the extension of breast cancer screening, which now also covers the 45 to 49 and 70 to 74 age groups.**

Prevention is a crucial challenge and the greatest investment we can make in our own well-being, in that of the community and in the sustainability of the Italian National Health Service (SSN), which, let me remind you, is among the best in the world.

During our term of office we have provided answers that had been missing for years: the measures on waiting lists, and the Mental Health Action Plan, which had been stalled for over ten years. We have worked on measures to bring the health service closer to people: from the approval of the **National Cancer Plan 2023-2027,** to the introduction of provisions supporting those facing the difficult path of cancer, guaranteeing greater protection at work. As a Government we also gave strong backing to the law on the right to be forgotten for cancer survivors (oblio oncologico), so that the many people who have been cured can have their lives back in full.

As a Ministry we will go on working, at every level, so that everyone takes an active part in their own health and feels the health service close at hand.

I am particularly grateful to IncontraDonna, which, through the FrecciaRosa project and the Health Guide, brings a culture of prevention ever closer to the people of Italy with such enthusiasm. I thank the doctors and volunteers who take part in the initiative, and who make it a valuable moment of shared commitment to promoting health and spreading a culture of prevention. I invite all of you, travellers, to take part in the campaign's activities during October.

Because FrecciaRosa is a journey towards greater awareness of our own health.

As Minister I am honoured to support this project and to travel with you.

Orazio Schillaci
Minister of Health

IT'S TIME TO LAUNCH FRECCIAROSA 2026!




The 16th edition of FrecciaRosa is under way, this year under the name "FrecciaRosa – prevention is a journey we take together": a project celebrating sixteen years of shared commitment to promoting health and spreading a culture of prevention.

October is once again a month devoted entirely to the **prevention of breast cancer** and other major cancers, to healthy habits and to environmental awareness. The One Health approach continues to guide what we do: the health of the individual is closely bound up with the health of the environment and of the communities we live in. Our future and that of the next generations depend on it. Alongside these themes, the 2026 edition pays particular attention to **metabolic health and obesity,** now among the leading public health challenges of our time, and closely linked to the risk of many chronic diseases, including some cancers.

The **IncontraDonna Foundation,** which is strongly committed at national level to promoting health, prevention, and care, is offering free consultations to women and men on board FS Group trains throughout October. For some age groups, if the doctor on board thinks it appropriate, you can have a breast examination, with an ultrasound scan if needed. This helps point women towards further tests within the Italian National Health Service (SSN) and encourages them to take up the free screening their Region offers. **FrecciaRosa** travels the length of the country, including the major islands, reinforcing the value of our SSN, which remains our constant point of reference. Doctors from leading public hospitals are available to passengers free of charge, as always, supported by the strength of our volunteers.

The 2026 edition also sees the launch of new events on the ground, in Genoa and Cosenza as well as Rome, with the aim of reaching further across the country. This year's information and guidance activities include initiatives devoted to assessing the main risk factors and to promoting healthy habits, as part of an increasingly informed and personalised approach to prevention.

The **Health Guide** remains one of the key tools for bringing people closer to prevention: distributed free of charge on trains and in selected Freccia Lounges, and available to download from www.incontradonna.it, it is designed to be read, shared and passed on at work, in the family and among friends. A few minutes are enough to pick up useful, up-to-date information, produced in collaboration with qualified professionals in each of the fields covered.

Special thanks go to the tireless IncontraDonna Volunteers, to the doctors on board who provide free consultations with professionalism and empathy during this month, to all the professionals who helped write the Health Guide, and to the Foundation's staff.

Our sincere thanks to **the FS Group,** the project's long-standing partner, and to the **Ministry of Health** for its constant institutional support.

Adriana Bonifacino
Founder, IncontraDonna Foundation

Antonella Campana
President, IncontraDonna Foundation

1.

BEHAVIOURAL FACTORS AND HEALTH



One Health

proactive, integrated and predictive prevention

GIOVANNI LEONARDI, UGO DELLA MARTA, SIMONA DE STEFANO,
ROSA GAGLIONE, DENISE GIACOMINI, ALESSIO NARDINI, GISELDA SCALERA

Public health can no longer be regarded as an isolated objective: it is the result of concerted action across every area of daily life, from food to the environment, from lifestyle to the management of natural resources.

The One Health Department of the Ministry of Health has set out on a coherent and structured course in this direction, promoting integrated strategies that combine educational, scientific and health and social approaches in order to encourage the public to make responsible and sustainable choices. Mental health, a healthy lifestyle, protection from the exposome (the set of environmental factors that shape our biology throughout life) and the promotion of an ecological outlook capable of steering collective behaviour towards lasting harmony with the ecosystem are the founding pillars of the Department's work.



In line with the **National Complementary Plan,** and in pursuit of proactive, integrated and predictive prevention, Urban Health projects have been launched to investigate and improve health conditions in urban areas, where population density, pollution and social inequality magnify the risks to the population, together with specific projects on biodiversity, climate and health, in recognition of the inseparable link between the integrity of ecosystems and human wellbeing. In parallel, the Department has established a governance framework with structured scientific partnerships, including collaboration with WHO Europe to develop training modules for the role of One Health expert: a cross-disciplinary professional able to interpret the complexity of health determinants systemically and to translate it into practical, measurable action consistent with the principles of sus-

tainability and prevention that inform the Department's entire programme.

On governance, the past year saw the launch of the **National Committee for Food Safety,** a multidisciplinary and multisectoral body set up within the Ministry of Health to provide scientific guidance and strategic direction on food safety. The Committee has drawn up a Three-Year Plan for Food Safety (at www.salute.gov.it/new/it/pubblicazione/cnsa-piano-di-programmazione-triennale-anni-2026-2028/) which fully adopts the conceptual framework of the **One Health** approach, recognising the interdependence of human, animal and ecosystem health along the entire food chain. One of the Plan's priorities is the promotion of the Mediterranean Diet as a means of preventing non-communicable chronic diseases - among them cardiovascular disease, type 2 diabetes and certain forms of cancer - and as a lever against metaflammation, the low-grade systemic inflammation associated with nutritional imbalance and a sedentary lifestyle, increasingly recognised as the common substrate of the main chronic degenerative diseases. Seen in this light, the **Mediterranean diet** is understood not merely as a dietary model but as a cultural heritage and an instrument of public health capable of combining environmental sustainability, social equity and individual wellbeing, fully in keeping with the founding principles of the One Health Department. The Plan rests on a scientific programme framework that starts from one fundamental premise: **healthy and safe eating can counter the epigenetic changes** which, by altering gene expression without changing the DNA sequence, play a decisive part in the development of cancer. Nutritional epigenetics is therefore a cross-cutting theme running through the whole programme, providing a sound scientific basis for promoting protective dietary models - first among them the Mediterranean Diet - as instruments of primary cancer prevention. With this in mind, the One Health Department has set itself the strategic objective of coordinating its activities so as to reach the widest sections of the population, with particular attention to childhood: acting early on children's eating behaviour means acting on epigenetic processes during a biological window of maximum susceptibility and plasticity, with signifi-

cant effects on the individual's health trajectory across the whole of life. It is precisely this outlook, deeply committed to protecting childhood as an indispensable investment in the health of future generations, that led to the establishment of the Donor Human Milk Bank Working Group. This is an initiative of exceptional ethical and scientific importance, which turns the principle of health equity into practical action: ensuring that mothers who are unable to breastfeed can nonetheless feed their children human milk, recognised in the international scientific literature as the foremost food for preventing childhood obesity and its long-term metabolic consequences. Human milk, in its extraordinary biological complexity, is not simply nourishment: it is the first and most powerful epigenetic modulator available, able to shape the newborn's microbiome, immune system and metabolic regulation in lasting ways. The Working Group thus forms part of the principle of proactive prevention, which identifies the first thousand days of life as the window of greatest biological sensitivity and greatest potential for early prevention: a unique opportunity, and one that cannot be repeated, to shape the physical, cognitive and psychosocial health trajectory of every human being.

Finally, to make its governance work well in practice, the Department has set up an important technical and organisational body: a **Scientific and Technical Group** made up of representatives of the Department's three Directorates-General, designed to work across disciplines and to ensure coordination between the various institutional and scientific competences. The aim is to improve decision-making within the Department, to encourage the sharing of scientific evidence between the relevant bodies and to allow the planning of action that is increasingly specific, targeted and consistent with the needs of a modern, integrated public health framework.

Nutrition

SIMONA DE STEFANO, GIOVANNA LIBERATI

Eating well is a key way of preventing many diseases. A balanced diet protects your health and helps improve both quality of life and life expectancy. For this to work, food has to be safe to eat (food safety) but also available and affordable (food security).

The quality and quantity of the food we eat, how often we eat and our cultural traditions are what shape dietary patterns.



The **Mediterranean diet,** considered one of the healthiest dietary patterns and recognised by UNESCO as **intangible cultural heritage,** favours vegetables, fresh fruit and nuts, pulses and cereals, preferably wholegrain; it includes moderate amounts of fish, eggs, white meat, milk and other dairy products; it limits red meat, cured meats and sweet foods, using extra virgin olive oil as the main source of fat. In practice, this means at least five portions of fruit and vegetables a day, cereals at every main meal, milk and yoghurt daily, pulses two to four times a week and fish two to three times a week, while red meat, cured meats and sweet foods should be eaten only occasionally.

How much food you need depends on your age, your sex, your basal metabolism and how active you are.

In childhood and adolescence it is **essential to get the right amount of macronutrients and micronutrients for growth.** Boys need more energy because they have more muscle, while girls need more iron because of menstruation. **Adolescence is also decisive for bone health: this is the time to build up calcium to prevent osteoporosis later on.**

In **adulthood,** men still need more energy than women. At this stage it becomes important to **prevent high blood pressure and**

heart disease by cutting down on salt and saturated fat and eating more fibre and omega-3. For women, folic acid matters as well as iron, especially during the childbearing years, together with keeping to a healthy weight, which affects fertility and pregnancy.

During **pregnancy and breastfeeding you need more energy,** protein, iron, calcium, folate, omega-3 and water. At these times it is a good idea to eat more small fish, vegetables, pulses and dairy products, and to drink more water.

After the **menopause** a woman's metabolism slows down because she has less lean body mass. At the same time the risk of osteoporosis and heart disease goes up. This is why it is important to get enough calcium and vitamin D and to cut down on saturated fat and salt.



In **later life** everyone needs less energy and more protein, which is needed to maintain muscle. It is also important to get enough vitamins D and B, which older people are often short of.

In short, although the principles of healthy eating hold good for everyone, nutritional needs change from one stage of life to the next, and that makes a personalised approach essential.

Nutrition and prevention at different stages of life

Childhood and adolescence: eating for growth

To grow up healthy:

- Base what you eat on the Mediterranean diet
- Keep to portions suited to your age

To get enough calcium:

- Have milk, yoghurt and cheese regularly
- Drink water with a high calcium content

To get enough iron (especially for teenage girls):

- Choose lean meat and fish
- Eat pulses regularly
- Include green leafy vegetables

Adulthood: eating to stay in shape

- Men

To maintain muscle and limit the gain in body fat:

- Match how much you eat to how active you are
- Choose high-quality protein

To lower your risk of heart disease:

- Limit foods high in saturated fat
- Eat sources of omega-3 regularly
- Cut down on salt
- Eat more fibre

- Women

To avoid being either underweight or overweight:

- Keep your weight within a healthy range

To get more iron:

- Eat pulses
- Choose green leafy vegetables
- Go for lean meat

Pregnancy and breastfeeding: eating for mother and baby

To keep to a healthy weight:

- Match what you eat to how active you are

To get more iron:

- Eat pulses, green leafy vegetables and lean meat

To get more calcium:

- Have milk and yoghurt
- Eat broccoli, anchovies and dark green leafy vegetables
- Drink water with a high calcium content

To get enough folate:

- Eat fruit, vegetables, pulses and wholegrain cereals
- Consider a supplement if your doctor advises one

To get more long-chain omega-3:

- Eat three to four portions of fish a week
- Choose small oily fish such as sardines, anchovies and mackerel

To stay hydrated while breastfeeding:

- Drink about 700 ml more water a day than you normally would

Menopause: eating for a changing metabolism

To keep your weight in a healthy range:

- Balance what you eat with how active you are

To get more calcium in your diet:

- Have milk and yoghurt
- Choose oily fish, shellfish and seafood
- Include broccoli, cabbage, nuts, seeds and pulses
- Drink water with a high calcium content

To limit saturated fat:

- Choose reduced-fat milk and cheese

Later life: eating for healthy ageing

To preserve muscle:

- Choose high-quality protein: go for low-fat milk and cheese, pulses, eggs, fish and lean white meat

To keep the balance between lean mass and body fat:

- Match what you eat to how active you are

To get enough B vitamins:

- Choose foods rich in B vitamins, from both animal and plant sources

To get enough folate:

- Eat fruit, vegetables, pulses and wholegrain cereals regularly

Smoking

MARIA ASSUNTA GIANNINI, PIERLUIGI ROSI

Use of tobacco and nicotine products



Why is smoking bad for our health? **According to the World Health Organization (WHO), more than 8 million people die each year from tobacco use.** In Italy an estimated 94,000 deaths a year could be avoided. One cigarette contains about 600 ingredients, and it creates more than 7,000 chemical substances when it burns. At least 69 of these chemicals are known to cause cancer, and many are toxic. **20 cigarettes a day reduces the average life span of a young person who starts smoking at the age of 25 by about 4.6 years,** which is equivalent to losing one day of life for every week of consumption. The nicotine in tobacco is the neuroactive substance responsible for addiction, and it causes both emotional problems and problems with memory.

What are the most common risks?

Smoking increases the risk of many types of cancer: lung and airways, oesophagus, stomach, liver, colon and rectum, pancreas, kidney, ureter, bladder, ovary, cervix, and myeloid leukaemia. Passive smoking is also a recognised risk factor for breast cancer, and it is the main risk factor for non-cancerous respiratory disease, including chronic obstructive pulmonary disease (COPD). It is also one of the most important risk factors for heart disease. Nicotine (which is also found in heated tobacco products, in many e-cigarettes and in nicotine pouches) raises the heart rate and the force of the heartbeat, raises blood pressure and can encourage the build-up of fatty plaques in the arteries. It also reduces sensitivity to insulin and can make diabetes worse.

Smoking also **harms the female reproductive system,** because by altering hormone production it brings the menopause forward

by around two years compared with non-smokers, and it affects fertility too. Pregnant women who smoke has an increased risk of miscarriages, stillbirths, and underweight babies. Smoking also affects your appearance: pale gums, yellowing teeth, ageing skin and more facial hair.

Why quit smoking?

Giving up smoking is an investment in your health, because it lowers your risk of developing many conditions and because it also protects non-smokers from passive smoking, reducing, for example, the risk of illnesses in children caused by exposure to smoke, such as respiratory disease, asthma and ear infections. When you stop smoking: your circulation and lung function improve within a short time and, within a year, your risk of a heart attack is half that of a smoker; after ten years your risk of lung cancer is halved and, within fifteen years, your risk of chronic disease is the same as that of someone who has never smoked. Quitting smoking is also good for those who have already developed smoking-related diseases.

How to quit?

You can stop on your own, but your chances of success are much higher with support from your family doctor or from the specialists at the stop-smoking clinics (**Centri antifumo**) in your area (https://smettodifumare.iss.it/it/centri-antifumo/). If necessary, the doctor may recommend drug therapy with pharmaceutical nicotine substitutes (NRT), Bupropion, or Citisin, which alleviate withdrawal symptoms and help you quit. From this year the SSN (Italian National Health Service) also provides, as part of psychological counselling at the stop-smoking clinics, **free cytisine,** a medicine that helps smokers give up by easing withdrawal symptoms such as *craving*, anxiety and sleeplessness.

Are there other products to watch out for?

As well as cigarettes and other conventional tobacco products, new products have been on sale for some years now, such as **heated tobacco** and **e-cigarettes** with or without nicotine, and more recently oral pouches containing nicotine salts. An e-cigarette is a device that lets you inhale vapour, usually flavoured, containing varying amounts of nicotine (generally between 6 and 20 mg) in a mixture of water, propylene glycol, glycerol and other substances, mainly flavourings.



Heated Tobacco Products (HTPs) are devices which, unlike e-cigarettes, contain sticks of tobacco that are heated to a high temperature (around 350°C), producing an emission similar to smoke.
These products contain nicotine and other chemicals, and there is currently no evidence that they are less harmful than conventional cigarettes. They may expose users to lower levels of some of the toxic substances found in cigarettes, but they expose them to higher levels of other potentially toxic and harmful chemicals that conventional cigarettes do not contain. Because the design and the flavours are attractive, these products encourage experimentation, particularly among young people.

Find out more:
www.salute.gov.it/new/it/tema/fumo-prodotti-del-tabacco-sigarette-elettroniche/ https://smettodifumare.iss.it/it

Alcohol

MARIA ASSUNTA GIANNINI, MARIA MIGLIORE

Why alcohol affects women more

Women, along with older and young people, are the group most likely to be harmed by drinking alcohol. Women are more vulnerable to the effects of alcohol than men because they **break alcohol down less efficiently, having less body mass and less body water.** This means that, for the same amount of alcohol, the level in a woman's blood is higher than in a man's.

The World Health Organization reports that women who drink alcohol are more likely to develop a range of conditions, including several types of cancer (breast cancer in particular), osteoporosis, reduced fertility and complications in pregnancy such as miscarriage and the risk of giving birth to a baby with foetal alcohol syndrome (FAS/FASD).



The less you drink, the lower the risk

The guidelines of CREA, the Council for Agricultural Research and Agricultural Economics Analysis, state that one unit of alcohol, containing around 12 grams (a 125 ml glass of wine, a 330 ml can of low-strength beer or a 40 ml measure of spirits), is considered compatible with a lower level of risk to women's health. It is not risk-free, however, because there is no amount of alcohol that is safe for your health.

Over the past ten years the proportion of women drinking alcohol outside mealtimes has risen steadily, and the trend shows no sign of stopping, especially in the younger age groups.

Drinking alcohol outside meals, an extremely common behaviour among women, even in combination with other types of risky behaviour such as smoking, increases the risk and exposes you to a greater likelihood of developing diseases, namely cancer.

Zero alcohol during pregnancy

Drinking alcohol during pregnancy harms the foetus and the child, causing miscarriage, stillbirth, sudden infant death, premature birth, certain birth defects, low birth weight and restricted growth in the womb. The most characteristic condition caused by drinking during pregnancy is *Foetal Alcohol Spectrum Disorder (FASD)*, whose most serious form is *Foetal Alcohol Syndrome (FAS)*. Both involve a range of structural and neurodevelopmental abnormalities that lead to serious behavioural and neurocognitive disability.



It is important to bear in mind that **all the alcohol a mother drinks during pregnancy passes into the blood of the fetus;** even a very small amount can therefore cause harm and damage its health. Every stage of embryonic development is vulnerable to the teratogenic effects of alcohol, which is why the clinical guidelines of most countries advise against drinking during pregnancy, and why the public health message is “no alcohol in pregnancy, and no alcohol when you are trying to conceive”. Foetal alcohol syndrome can be prevented completely by not drinking alcohol during pregnancy.

A brief guide:

1. drinking alcohol during pregnancy increases the risk of harm to your baby's health
2. there is no amount of alcohol that can be considered safe or risk-free for the fetus during pregnancy
3. any alcoholic drink harms the fetus, whatever the type or strength
4. alcohol is a toxic substance that crosses the placenta and reaches the foetus at the same concentration as in the mother
5. the foetus cannot break alcohol down, so it damages the brain cells and the tissues of the organs as they form
6. alcohol harms the foetus above all in the first few weeks and in the last three months of pregnancy
7. if you are planning a pregnancy, it is best not to drink alcohol. If you are already pregnant, it is better to stop until the birth. The harm caused to a child by exposure to alcohol before birth is irreversible and cannot be treated
8. it is also best not to drink alcohol while breastfeeding
9. all the harm to your baby caused by drinking during pregnancy can be prevented by not drinking alcohol
10. stopping drinking is an act of responsibility and of love towards your unborn child.

Cancer rates among women in relation to alcohol intake

The International Agency for Research on Cancer (IARC) estimates that in Italy there are more than **3,200 new cases of alcohol-attributable cancer in women each year,** of which around 1,400 (45%) are linked to drinking less than 20 grams a day. Around 2,300 of these are breast cancer: a second glass can raise the risk of developing it by as much as 27%, particularly where drinking starts early and continues over time.



Alcohol can cause at least seven types of cancer. The most common types of cancer caused by alcohol are breast cancer in women and colon cancer in men. People who smoke tobacco and drink alcohol have a 5 times greater risk of developing cancer of the oral cavity, oropharynx, larynx, and oesophagus compared to people who only use alcohol or tobacco. The international scientific community (IARC) has stated clearly that there is no safe level of alcohol consumption where the risk of cancer is concerned. The WHO has therefore called for caution, with the message **“Less is better”.**

Useful numbers: Alcohol Freephone Helpline (ISS – Italian National Institute of Health) 800 632 000
Websites: www.salute.gov.it
www.epicentro.iss.it/alcol/osservatorio-nazionale-alcol

Physical activity
the body is designed to move

MASSIMO SACCHETTI

Physical activity is a fundamental biological stimulus for the body to work properly. When you move, your muscles do more than produce force: they release signals that affect metabolism, the brain, the immune system and other processes involved in health. Modern life, however, often involves less physical activity than recommended and more time spent sitting down. Scientific evidence shows that **an active life helps lower the risk of many chronic diseases, including heart disease, diabetes and some cancers**; during and after cancer treatment it can also help counter fatigue, loss of strength and loss of independence, improving quality of life and physical and mental wellbeing.

For health, international recommendations suggest that adults do at least **150 to 300 minutes a week of moderate activity**, such as brisk walking, **or 75 to 150 minutes of vigorous activity**, such as running or anything else that takes more effort, together with strength exercises at least twice a week. As you get older, activities that train balance, coordination and mobility become important too.

Recent evidence shows that, for your health, exercise is not the only thing that counts: it also matters that you **sit less**. Spending too long sitting down exposes the body to biological signals that can affect health for the worse. You can be physically active and still spend most of the day sitting.

So **take every chance you get to move**. Taking the stairs, walking while you are on the phone, getting up from your desk or breaking up long periods of sitting are all practical ways of looking after your health. Even short active breaks of one to three minutes, a brief walk or a few simple exercises spread through the day, can make a real difference.

But knowing that movement matters is not always enough: one of the main challenges is **making movement part of your life**. There are many ways to be active, and there is almost certainly one that suits you. Walking, dancing, swimming, cycling, playing a sport or following an exercise programme are all different but equally good choices. What matters most is finding what best fits your own preferences, needs and way of life. Turning movement into a daily habit, by setting aside a time of day for it and, if you like, sharing it with other people, can help make it stick and make it more enjoyable.



You do not have to start with big goals: **a little movement is better than none**. The most important change is often not going from a lot to a great deal, but from nothing to something. The hardest step is usually starting, and it is never too late to do so.

One practical example of physical activity in support of health is the **RE-START Cancer Care project – A new beginning after a cancer diagnosis**, run by the IncontraDonna Foundation. Launched in 2024, it offers cancer patients, whether in active treatment or in follow-up, a free multidisciplinary rehabilitation programme that includes activities such as rowing, with the aim of turning movement into a means of recovery, independence, wellbeing and enjoyment.

2.

INTRODUCTION TO CANCER PREVENTION AND CARE



Innovation in cancer screening

MARIA TERESA MENZANO, MARIA GIULIA MARINO

In recent years important steps have been taken to strengthen and modernise **organised cancer screening programmes** and to make prevention fairer, more accessible, more appropriate and more closely aligned with the latest international recommendations.

One of the main developments is **the extension of the age ranges for two of the organised screening programmes** in Italy, provided for in the 2026 budget law. The new provisions will progressively extend **mammography screening to women aged 45 to 49 and 70 to 74**, and **colorectal cancer screening to women and men up to the age of 74**. The aim is to detect more cancers at an early stage, improving the chances of successful treatment and survival. The roll-out will be accompanied by specific monitoring to assess how it is being implemented across the country.

A further innovation is the **refinancing of the Italian Lung Screening Network (RISP)**, also provided for in the 2026 budget law, which promotes early detection of lung cancer in people at high risk using low-dose computed tomography. Developed with many specialist centres, the initiative will generate scientific and organisational evidence to inform future national prevention strategies for one of the cancers with the greatest impact on mortality.

The new **National Prevention Plan 2026-2031** devotes a specific programme to the implementation of cancer screening, confirming its strategic role in prevention and promoting the development of increasingly effective models, geared to tailoring what is offered to each person, to the use of scientific and technological innovation and to improving uptake among the population.

Investing in prevention means not only reducing the incidence of disease and the number of deaths, but also **improving people's quality of life and contributing to the sustainability of the health service**. In all of this, informed participation in screening programmes is essential if the opportunities offered by the Italian National Health Service are to translate into real health gains.

Public health models: cancer screening

ANNAROSA DEL MISTRO, RENATO FASOLI, VERONICA GIRARDI

The aim of secondary cancer prevention is to find pre-cancerous changes or cancers at an early stage in people who have no obvious symptoms. This makes it possible to prevent a cancer from developing, or to treat it in its early stages, and it reduces the number of deaths.

Cancer screening is included in the Essential Levels of Care (LEA, the services guaranteed free of charge): the SSN covers the whole diagnostic and treatment pathway.

Italy has three cancer screening programmes, for the prevention of:

- **breast cancer;**
- **cervical cancer;**
- **colorectal cancer.**

They are organised nationally and coordinated at regional level, and they are very effective, although uptake still varies widely between the Regions. The protocols are evidence-based, monitored for quality and constantly updated to improve their effectiveness and to tailor them to each person's individual risk of developing cancer. The aim is to make cancer screening increasingly accessible, sustainable and fair, both for the individual and for society.

Screening programmes for lung cancer and prostate cancer are also being set up for people at high risk.

Protect your health by taking part in cancer screening, which is simple and safe and which your local ASL (the local health authority) actively invites you to attend.

BREAST CANCER SCREENING

Who is it for?

People aged 50 to 69; with regional variations extending this to ages 45 to 74.

How does the screening work?

You receive a personal invitation telling you where and when to have your mammogram. Any further tests and, if needed, the treatment pathway are free of charge and arranged by the screening programme.

What test is done?

A mammogram of both breasts, carried out according to the screening programme's protocols and with regular quality checks.

What happens if the result is positive?

If the mammogram shows something suspicious, you will be called back for further tests. These may include other imaging tests and, if indicated, taking a sample of breast tissue (a biopsy).

What happens if your risk is high?

If your risk is high, you may be referred to a personalised monitoring pathway, depending on your doctor's assessment and the applicable protocols.

CERVICAL CANCER SCREENING

Who is it for?

All women aged 25 to 64.

How does the screening work?

A personal invitation telling you where and when to have the sample taken.

For women who do not take up the invitation, some Regions offer the option of taking the sample at home using a special device (self-sampling).

What test is done?

This depends on your age and takes account of any previous HPV (human papillomavirus) vaccination:

- a Pap test every 3 years for unvaccinated women aged 25 to 29
- an HPV test every 5 years for women aged 30 to 64
- women vaccinated before the age of 15 start screening at 30

What happens if the test is positive?

You may be invited to have:

- a colposcopy, to examine the cervix and take samples if needed (a biopsy), which may be followed by treatment of any abnormal cells
- a repeat sample after an interval, according to the protocols in force

What are the main developments?

- personalised protocols (linking vaccination and screening; use of new biomarkers where the test is positive)
- free vaccination at 25, at the first screening invitation, for unvaccinated women
- wider use of self-sampling for women who do not take up the invitation
- an HPV test every 5 years for unvaccinated women aged 25 to 29 as well.

COLORECTAL CANCER SCREENING

Who is it for?

Men and women aged between 50 and 69 or 74, depending on the Region.

How does it work?

You receive a letter telling you how to collect, from your nearest pharmacy, the kit for taking the stool sample on which the faecal occult blood test (FOBT) will be carried out. You then return the kit to the same pharmacy.

What happens if the test is positive?

- if occult blood **is present but not in significant amounts**, you will be invited to repeat the test in two years
- if occult blood **is present in significant amounts**, you will be invited to a nearby endoscopy centre for a colonoscopy, during which the colon and rectum are examined and, in most cases, any polyps found are removed.

What are the main developments?

- gradual extension of invitations from 69 to 74
- the option of having the sampling kit sent straight to your home
- use of different channels (email, social media and so on) to communicate with the public.

Results will soon be available from studies that will make it possible to tailor screening to each person's risk of developing changes in the colon or rectum.

Screening: the "PASSI" and "PASSI d'Argento" surveillance systems run by the Istituto Superiore di Sanità

MARIA MASOCCO, VALENTINA MINARDI, BENEDETTA CONTOLI, FEDERICA ASTA, VALENTINA POSSENTI

Methodology

PASSI and PASSI d'Argento are two public health surveillance systems modelled on Behavioural Risk Factor Surveillance, which is used in many countries from the United States to Australia. Through sample surveys they gather continuous information on the health profile, lifestyle, behavioural risk factors and preventive behaviour of the general population resident in Italy. Both are coordinated by the ISS (Prime Ministerial Decree of 3 March 2017 on registers and surveillance, Official Gazette, General Series, no. 109 of 12 May 2017) and are based on standardised questionnaires administered by trained health and social care staff from the local health authorities (ASL) to samples representative by sex and age of the target population (PASSI: 18 to 69; PASSI d'Argento: 65 and over) registered with the ASL where they live.

PASSI has been fully operational since 2008 and PASSI d'Argento since 2016. They are therefore two distinct systems, but they share the same study design and the same data collection procedures. The questions on behavioural risk factors often overlap and the indicators are comparable, with small differences arising from the particular features of each target population. PASSI and PASSI d'Argento are therefore tools that operate within the Italian National Health Service: the ASLs collect data directly from the people registered with them and use the results for local action, while the Regions coordinate data collection in the ASLs and monitor prevention indicators; the ISS, with responsibility for direction, development, training and research, coordinates the collection and provides the scientific and technical support and

methodological rigour needed to run the survey and analyse the results. Because these systems are flexible, the standard questionnaire can be supplemented with new modules of regional or national interest to meet new information needs, including in emergencies.

PASSI collects more than 30,000 interviews a year among people aged 18 to 69 (567,000 interviews in all between 2008 and 2024). Every year the ASLs taking part account for more than 90% of those in Italy, and the response rate among the people selected for the sample is consistently around 80%. PASSI d'Argento achieves similar rates of participation and response, collecting around 17,000 interviews a year with people aged over 65. In 2023 and 2024 a total of 70,604 interviews were carried out with 18 to 69-year-olds in PASSI and 35,205 with over-65s in PASSI d'Argento. The Lombardy Region has taken part in neither PASSI nor PASSI d'Argento since 2017.

PASSI surveillance data on mammography screening

PASSI gathers information on mammography screening coverage by asking the women interviewed in the target population (women aged 50 to 69) whether and when they had a mammogram purely as a preventive measure, that is, in the absence of signs or symptoms, and whether they paid part or all of the cost. This makes it possible to distinguish participation in organised screening offered free of charge by the ASLs from screening tests carried out on the woman's own initiative, outside the ASL's organised programmes. Knowing when the last screening test was done makes it possible to identify those members of the target population who were tested within the intervals recommended by the Italian guidelines, which in turn allows an estimate of total coverage, inside and outside organised programmes. The PASSI data for 2023-2024 show that in Italy 75% of women aged 50 to 69 had a mammogram for preventive purposes, either within organised programmes or on their own initiative, in line with national and international guidelines, which recommend that women in this age group have a mammogram every two years for the early diagnosis of breast cancer. The proportion of women who

attend mammography screening is higher among those with more education or greater financial resources, among Italian citizens than among foreign nationals, and among women who are married or living with a partner. Mammography screening coverage shows a clear north-south gradient, with total coverage of 86% in the north, 80% in central Italy and only 62% in the southern Regions. Friuli-Venezia Giulia has the highest coverage (90%) and Calabria the lowest (46%). Over the years the geographical gap has narrowed and the proportion of women having a mammogram for preventive purposes has risen, thanks above all to more programmes being offered, and more women taking them up, across the country. Analysis of the time series also shows that where the provision and uptake of organised programmes has reached significant levels, as in the northern and central Regions, recourse to mammograms on the woman's own initiative falls. In the southern Regions, where the provision of organised programmes is still too low despite increasing over time, recourse to mammograms on the woman's own initiative continues to rise, but without making up for the shortfall in provision and uptake. The result is that wide inequalities in access to breast cancer prevention remain across the country. The COVID-19 pandemic in 2020 and 2021 brought down total mammography screening coverage, both because the ASLs offered fewer programmes and because fewer of the women invited took up the offer. Coverage began to rise again in 2022 and by 2024 had passed pre-pandemic levels. A significant proportion of women aged 50 to 69 have never had a mammogram for preventive purposes, or have not had one recently enough: one woman in ten has never had a mammogram and almost 15% report that their last one was more than two years ago.

PASSI surveillance data on cervical screening

In Italy, since 1 January 2023, the active, free offer of the organised screening programme has been adjusted according to HPV vaccination status. A Pap test is offered every three years to women aged 25 to 29 who have not been vaccinated against HPV (or who

received only one dose, or a second dose after the age of 15), and an HPV test every five years to all women aged 30 to 64, including those vaccinated against HPV (with at least two doses given before the age of 15), who receive their first screening invitation at 30 with the offer of an HPV test, to be repeated every five years.

The PASSI surveillance system has adapted its data collection and analysis for cervical screening coverage accordingly. The estimates for 2023-2024 show that in Italy 78% of women aged 25 to 64 attend cervical screening for preventive purposes, either within organised programmes or on their own initiative, in line with the national guidelines described above. The proportion of women attending cervical screening is higher among those with more education (84% of graduates against 50% of those with only primary schooling) or greater financial resources (81% of those with no financial difficulty against 67% of those reporting considerable difficulty), among Italian citizens than among foreign nationals (78% against 69%) and among women who are married or living with a partner (80% against 73%). Cervical screening coverage shows a marked north-south gradient, averaging 84% in the northern and central Regions and 69% in the south, with the lowest figure in Calabria (59%). Over time there has been a statistically significant increase in the number of women attending for prevention, driven by more screening being offered and more women taking it up, while recourse to screening on the woman's own initiative has fallen. For cervical screening too, however, the COVID-19 emergency meant both a delay and a substantial reduction in the organised screening programmes offered by the ASLs, only partly made up for by screening on the woman's own initiative, and a fall in uptake among the population. Coverage fell significantly in 2020 and has still not recovered, remaining well below pre-pandemic levels. Attendance at cervical screening for preventive purposes is higher within programmes organised by the ASLs (47%), while a smaller but substantial proportion of women (31%) attend on their own initiative, paying all or part of the cost of the test. The geography of organised screening coverage mirrors that of the programmes themselves: in the Regions where more is offered, or where what is offered works better,

mainly in the north and centre of Italy, more women take part in organised programmes than attend on their own initiative (59% against 24% in the north and 49% against 34% in the centre). In the Regions, mainly in the south, where organised programmes are still insufficient or do not reach the target population effectively, coverage through organised programmes (35%) is no higher than the proportion of women attending on their own initiative (34%). The result is that the total number of women attending for prevention, inside or outside organised programmes, remains well below the levels reached in the rest of the country. Organised screening offered by the ASL is confirmed as a means of reducing social inequality in access to prevention, since for most women with less education, greater financial difficulty or foreign nationality it is the only way to obtain early diagnosis of cervical cancer. Among the measures that improve uptake, an invitation from the ASL is again shown to be effective, but only in combination with advice from the woman's own doctor or another health professional. Finally, a significant proportion of the women aged 25 to 64 interviewed report that they have never attended cervical screening (11%). The reason most often given for not attending cervical screening is "I don't think I need it".

PASSI surveillance data on colorectal screening

National coverage of colorectal screening in Italy remains fairly low: in 2023-2024, 47% of those interviewed in the 50 to 69 age group reported having had one of the tests for the early diagnosis of colorectal cancer for preventive purposes, at the intervals and in the manner recommended by national and international guidelines (a FOBT in the previous two years, or a colonoscopy or flexible sigmoidoscopy in the previous five). There is wide variation from north to south, to the disadvantage of the southern Regions, where in 2023-2024 the proportion of people attending screening was only 30%, against 55% in central Italy and 62% in the north. Most of those who attended colorectal screening did so within programmes organised by the ASLs (39%), while screening on the person's own initiative, outside what the ASL offers, is uncommon (almost 8%). Since 2010, total colorectal screening coverage, inside and outside organised programmes, has risen significantly throughout the country, thanks to wider availability of programmes and greater uptake.

Cervix, endometrium, and ovaries

DOMENICA LORUSSO, MARIACHIARA PADERNO, ELENA GIUDICE, ILARIA SABATUCCI, MARGHERITA TURINETTO

Gynaecological cancers have changed considerably in recent years, both in how they are diagnosed and in how they are treated. **Alongside surgery and conventional chemotherapy, new and increasingly personalised treatment strategies have become established,** such as targeted therapies and immunotherapy, which improve both the effectiveness of treatment and patients' quality of life.

Prevention, through regular check-ups and a healthy lifestyle, remains **essential in reducing the risk of disease and allowing early diagnosis.**

In some cases **risk may be linked to genetic factors, as in Lynch syndrome,** which is associated in particular with cancers of the endometrium and ovary, and in the hereditary and familial syndromes linked to mutations in the **BRCA1 and BRCA2 genes,** which are one of the main causes of hereditary ovarian cancer.

Knowing your family history and, where indicated, having genetic counselling are essential, as is going to a specialist centre for complete, multidisciplinary care.

CERVIX

Cervical cancer affects the cervix, the lower part of the uterus that opens into the vagina. It is among the most common gynaecological cancers in developing countries and the fourth most common cancer in women worldwide.

What is the main risk factor?

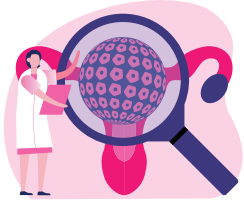
The main risk factor is persistent infection with **human papillomavirus (HPV)**, particularly the high-risk strains such as HPV-16 and HPV-18. It is passed on mainly through sexual contact.

EPIDEMIOLOGICAL DATA

In Italy an estimated 2,382 new cases are diagnosed each year; worldwide there are around 570,000 new cases of cervical cancer and more than 300,000 deaths. In developed countries, the spread of **HPV vaccination and screening programmes has significantly reduced both the incidence of the disease and the number of deaths**. In developing countries, by contrast, these figures remain high because prevention and treatment programmes are less accessible.

HPV can also cause other cancers, including cancers of the vulva, vagina, penis, anus, mouth and oropharynx, **affecting both women and men.**

Prevention: HPV vaccination and regular screening



In Italy, HPV vaccination is recommended and offered free of charge to girls and boys from the age of 11. The course consists of two doses six months apart; if it is started after the age of 15, three doses are needed.

Vaccination is recommended before a person becomes sexually active. Free catch-up vaccination is also available for women up to 26 and men up to 18 who have not been vaccinated or whose course is incomplete, with some variation between Regions.

The vaccine also works in adults, with evidence supporting its use up to the age of 45, and it is recommended for people who are already sexually active.

Current vaccines protect against the nine most dangerous strains and prevent more than 90% of HPV-related cancers.

The **Pap test** detects changes in the cells of the cervix that could develop into cancer. In Italy it is generally recommended **every 3 years between the ages of 25 and 29.** The **HPV test, by contrast,**

detects the DNA of the virus in the cervix and is better at identifying **infection with high-risk strains. It is recommended every 5 years, generally from the age of 30,** either on its own or together with the Pap test, depending on regional protocols.

How is cervical cancer treated?

Treatment depends on the stage of the disease and on the patient's condition.

The main treatment options are:

- **Surgery**: this may be a *cone biopsy* (removing a small part of the cervix), a *trachelectomy* (removing the cervix while preserving the uterus) or a *hysterectomy* (removing the uterus, either total or radical).
- **Radiotherapy**: this may be *external* or internal (*brachytherapy*), and it may be used on its own or together with chemotherapy and, in some cases, immunotherapy.
- **Chemotherapy**: used in advanced or metastatic disease, sometimes in combination with immunotherapy and antiangiogenic drugs.

What are the future prospects for cervical cancer?

The **combination of vaccination, screening and targeted treatment** has already brought significant reductions in the number of deaths.

Promoting education, guaranteeing access to prevention programmes and ensuring proper treatment are all essential if we are to continue tackling this disease and improve the health of people with cervical cancer.

ENDOMETRIUM

Endometrial cancer is a malignant tumour affecting the lining of the uterus. It is the most common type of cancer of the uterus, appearing mainly after the menopause, and it is the most frequent gynaecological cancer in developed countries.

EPIDEMIOLOGICAL DATA

An estimated 8,652 new cases are diagnosed in Italy each year, and around 382,000 worldwide, with the highest incidence in developed countries. Survival is good where the cancer is diagnosed early, but falls considerably in advanced disease.

What are the main risk factors for endometrial cancer?

The risk of developing endometrial cancer rises with **age**, particularly **after the age of 50**. The main factors include **obesity**, which raises **oestrogen** levels, and a **reproductive history** involving **early menarche**, **late menopause** or **no pregnancies**.
Hormone replacement therapy with oestrogen alone after the menopause can also increase the risk. Other factors to consider are **polycystic ovary syndrome (PCOS),** recently renamed **polyendocrine metabolic ovarian syndrome (PMOS),** and a **genetic predisposition**, such as **Lynch syndrome**, which carries a higher risk of several cancers, including endometrial cancer.

Can endometrial cancer be prevented?

Unlike other gynaecological cancers, **there is no screening programme for the general population;** this is why it is important not to ignore any symptoms.
Some measures can nonetheless help reduce the risk. Keeping to a **healthy lifestyle** is essential: a balanced diet, regular physical activity and a healthy weight all help keep hormone levels under control. Long-term use of **combined oral contraceptives** can have a protective effect. If you are on **hormone replacement therapy** after the menopause, it is important to take **progesterone alongside oestrogen**, on your doctor's advice.

People with **genetic or family risk factors**, such as Lynch syndrome, should have regular check-ups at a specialist centre. **Not smoking** and **limiting how much alcohol you drink** also help prevent cancer generally.

What are the most common symptoms and how is it diagnosed?

The most common symptom is **abnormal vaginal bleeding,** which should always be assessed by a doctor. **Pelvic pain**, **unusual vaginal discharge** and **unintentional weight loss** can also occur in the advanced stages. Diagnosis is based on a **pelvic examination**, a **transvaginal ultrasound scan** and an **endometrial biopsy**. In some cases a **hysteroscopy** is used, along with imaging such as **MRI or CT scanning,** to assess how far the disease has spread.

How is endometrial cancer treated?

Treatment depends on the stage of the disease. **Surgery** is often the first step and involves **removing the uterus**, and sometimes the ovaries and lymph nodes as well. Depending on the case, this may be combined with **radiotherapy**, **chemotherapy** or **hormone therapy**, the last of which is also an option for patients who wish to **preserve their fertility**.

What part does immunotherapy play in the treatment of endometrial cancer?

Treatment choices are increasingly personalised, partly on the basis of the molecular characteristics of the tumour. Immunotherapy is now an **important option in the treatment of advanced or recurrent endometrial cancer. It can be used in combination with chemotherapy** in the early stages of treatment (first line), **or on its own** at later stages. Immunotherapy drugs such as immune checkpoint inhibitors (anti-PD-1 and anti-PD-L1) help the immune system recognise and destroy cancer cells, and they are particularly effective in tumours with specific genetic changes such as dMMR or MSI-H.

OVARIES

Ovarian cancer develops in the ovaries, the reproductive organs that produce eggs and hormones such as oestrogen and progesterone. Although it is called "ovarian", it can also start in the fallopian tubes or the peritoneum, which are closely related structures. It can arise from the epithelial (surface) cells, from the germ cells that produce eggs, or from the stromal tissue that produces hormones.

EPIDEMIOLOGICAL DATA

An estimated 5,423 new cases are diagnosed in Italy each year. It is the fifth most common cancer in women and the leading cause of death from gynaecological cancer. Worldwide there are more than 310,000 new cases and more than 207,000 deaths each year, with a higher incidence in developed countries.

What are the risk factors associated with ovarian cancer?

The **risk** of developing ovarian cancer **rises with age, particularly after 50**. **Family history** also plays an important part: having close relatives with ovarian or breast cancer may point to a genetic predisposition, particularly where there are **mutations in the BRCA1 and BRCA2 genes**, or **Lynch syndrome**. Risk factors also include **endometriosis**, some **hormone therapies** after the menopause (those based on oestrogen alone), **never having given birth** and a **personal history of other** gynaecological or bowel cancers. Finally, an **unhealthy lifestyle**, with **obesity** and **a diet high in saturated fat**, can add to the risk.

Is there any way to prevent ovarian cancer?

There are currently **no effective screening programmes** for preventing ovarian cancer in the general population. In people at high genetic risk, such as those with BRCA mutations or Lynch syndrome, the risk can be reduced by having the fallopian tubes

and ovaries removed as a preventive measure. In these cases, regular check-ups may be offered, with a gynaecological examination, a transvaginal ultrasound scan and sometimes a CA-125 blood test, although there is no conclusive evidence that this reduces the number of deaths. Protective factors include long-term use of the contraceptive pill and a **healthy lifestyle**, with a balanced diet, physical activity and weight control.

How is ovarian cancer diagnosed?

Ovarian cancer is difficult to diagnose early, because the first symptoms are often vague and non-specific. The most common signs are abdominal bloating, pelvic pain, feeling full quickly and needing to pass urine often.

If you have these symptoms, your doctor will carry out a **gynaecological examination** and may arrange a **transvaginal ultrasound scan** to assess the ovaries and uterus. More detailed tests, such as **CT or MRI scans**, help establish whether the cancer has spread. The **CA-125 marker** in the blood can be a useful indicator, although it is not specific. The diagnosis is confirmed by a **biopsy**, analysing a sample of tissue.

What treatments are available for ovarian cancer?

Treatment for ovarian cancer depends on the stage of the disease and on the person's general condition, and it is usually based on a combination of surgery and chemotherapy.

Surgery aims to remove all visible disease, often including the ovaries, fallopian tubes, uterus and lymph nodes.

- **Chemotherapy:** usually given after surgery, it can also be used beforehand to shrink the tumour.
- **Targeted therapies:** these include drugs directed at specific molecular targets, such as PARP inhibitors, used mainly as maintenance treatment after chemotherapy; antiangiogenic drugs, which block the formation of the new blood vessels a tumour needs in order to grow; and antibody-drug conjugates (ADCs), approved for some forms of platinum-resistant disease.

- **Immunotherapy:** some clinical trials have shown promising results, particularly in platinum-resistant disease and in combination with chemotherapy. It works by prompting the immune system to recognise and attack cancer cells.

What developments are there in the treatment of ovarian cancer?



Research is advancing steadily, with studies on **combination therapies and increasingly personalised treatment.** New **biological markers** are also being assessed, useful for earlier diagnosis and for monitoring the response to treatment more precisely. At the same time, several **ADCs for ovarian cancer are in development, and one is already approved for platinum-resistant disease.** Taken together, these advances aim to improve both the chances of successful treatment and patients' quality of life.

Are there genetic mutations that increase the risk of ovarian cancer?

Inherited mutations in the BRCA1 and BRCA2 genes are responsible for around 15 to 20% of epithelial ovarian cancers. People with a BRCA1 mutation have a **39% to 46%** risk of developing ovarian cancer, while with BRCA2 the risk is between **10% and 27%**. **Lynch syndrome**, linked to mutations in the genes involved in DNA repair, is also associated with an increased risk of ovarian cancer, of up to around 12%.

LYNCH SYNDROME AND THE RISK OF GYNAECOLOGICAL CANCERS

This is an **inherited condition** linked to mutations in the genes involved in DNA repair (MMR), and it **increases the risk of several cancers, particularly of the endometrium, colon and ovary.** In women, endometrial cancer can be one of the first signs of the syndrome.

What are the signs of possible risk?

- A family history of colon, endometrial or ovarian cancer
- A cancer diagnosis at a young age
- Several cases of cancer in the same family

What should you do?

It is important to **talk to your doctor and consider genetic counselling.** Genetic testing makes it possible to set up personalised monitoring and prevention.

Why does it matter?

- It allows earlier diagnosis
- It makes targeted prevention possible
- It supports more appropriate treatment choices

Not only Lynch

BRCA1 and BRCA2 mutations also increase the risk of ovarian and breast cancer. **Knowing your family history is essential in identifying risk and planning the right check-ups.**

Colon and rectum

GIOVANNI BARBARA

Most colorectal cancers are caused by the malignant transformation of polyps. These consist of small benign growths caused by the uncontrolled reproduction of cells within the intestinal mucosa.

EPIDEMIOLOGICAL DATA

In 2024 around 48,700 new cases of colorectal cancer were recorded, 27,500 in men and 21,200 in women. Five-year survival after diagnosis is estimated at around 65% for men and 66% for women. In all, around 442,600 people in Italy are living with a diagnosis of this cancer.

What are the risk factors?

The following factors are recognised: **environmental, behavioural (smoking, inactivity, obesity) and dietary**. Age represents a "general" risk: from the age of 50 the risk rises in both men and women. The risk also increases in the presence of certain conditions (such as diabetes or metabolic syndrome), chronic inflammatory bowel diseases (such as Crohn's disease, ulcerative recto-colitis), or genetic syndromes (such as familial adenomatous polyposis or Lynch syndrome). **Physical activity, regular consumption of fruit and vegetables, and healthy lifestyles, on the other hand, play a preventive role**.

The main warning signs to report to your doctor are:



The presence of blood in the stool, even if mixed with mucus, changes in bowel behaviour due to the appearance of diarrhoea or constipation, anaemia, fever,

feeling of exhaustion, incomplete evacuation or rectal pain, unexplained weight. All of these symptoms are non-specific, but should be reported to a doctor.

What tests can be used to diagnose the disease?

The most accurate and widely used diagnosis method is **colonoscopy**, which also allows for histological confirmation through tissue samples (biopsies). In certain cases a "virtual colonoscopy" can be used instead. Colorectal cancer is common, particularly from the age of 50, which is why regional screening is offered.

Men and women receive an active invitation from their local ASL to have the faecal occult blood test regularly (or, in some Regions, a flexible sigmoidoscopy). In fact, the early diagnosis of this type of cancer is crucial to the survival and quality of life of patients. Occult blood testing is not a diagnostic test, as it does not provide sure proof of cancer, but is rather a **screening tool used to identify the subjects most at risk, to who should subsequently undergo a complete colonoscopy**.

Skin

A guide to skin health: melanoma and skin cancer

TERESA BATTISTA, PAOLO ANTONIO ASCIERTO

Skin cancers are traditionally broken down into melanomas and epithelial non-melanoma skin cancer.

Melanoma

is a **malignant tumour arising from melanocytes,** the cells that produce melanin, the pigment that gives our skin its colour. Although it develops mainly on the skin, in rarer cases it can arise in the mucous membranes (mouth, gastrointestinal tract or genitals), in the eye, or present as a "metastasis from an unknown primary".

How it develops

Melanomas can appear on unmarked skin or develop from existing moles:

- **Congenital moles:** Present from birth. The risk that they will change is low, except for "giant" moles of more than 20 cm.
- **Acquired moles:** These appear during the course of life.

The four main types

1. **Superficial spreading melanoma (70%):** The most common type. Flat or slightly raised, with irregular edges. Often affects the trunk in men and the legs in women.
2. **Lentigo maligna melanoma:** Typical of older people and of areas chronically exposed to the sun, such as the face.
3. **Acral lentiginous melanoma:** Appears on the palms of the hands, the soles of the feet or under the nails.
4. **Nodular melanoma (10-15%):** The most aggressive type. It grows deep quickly from the earliest stages, appearing as a dark, firm lump.



EPIDEMIOLOGICAL DATA

Melanoma is becoming steadily more common but, thanks to **early diagnosis** and new treatments, five-year survival has passed **90%** where the disease is localised.

- In Italy it is the **third most common cancer** in the under-50s.
- 85% of cases worldwide are in Europe, North America and Oceania.
- ***The good news:*** *although the number of cases is rising, the number of deaths is levelling off thanks to advances in immunotherapy and other new treatments.*

Other skin cancers (non-melanoma)

Besides melanoma, there are **carcinomas that start in the epithelial cells, which are very common but generally less dangerous** if treated promptly:

- **Basal cell carcinoma:** By far the most common. It grows slowly in areas exposed to the sun, such as the face and neck. It rarely spreads, but it can be locally invasive.
- **Squamous cell carcinoma**: This develops from the squamous cells. It can arise from pre-cancerous changes (actinic keratoses) and is more likely to spread than basal cell carcinoma.
- **Merkel cell carcinoma:** A rare form, extremely aggressive and fast-growing. It appears as a firm, painless lump, often reddish-purple in colour.

Protect your skin: know the risks

The skin's main enemy is unsafe exposure to **UV rays** (UVA and UVB).

Sunburn in childhood is the most dangerous, because the skin "does not forget" the damage it has suffered.

Did you know? Using sunbeds and sunlamps before the age of 30 increases the risk of melanoma by **75%**. Since 2026 the scientific community has strongly advised against using them for purely cosmetic purposes.



People at greater risk:

- People with fair skin (blue or green eyes, blond or red hair, freckles).
- Anyone who has had severe sunburn in childhood or adolescence.
- Having a large number of moles (more than 50)
- A personal or family history of skin cancer.
- Anyone who uses sunbeds.

Golden rules for prevention

1. **Be sensible about the sun:** Stay out of the sun between 11am and 4pm.
2. **Protect yourself fully:** Use a broad-spectrum sunscreen (SPF 30 or 50+) even in the city or when the sky is overcast. Reapply sunscreen several times, and after every swim, so that you are covered throughout. Wear protective clothing, a hat and sunglasses.
3. **An annual check-up:** Have a dermatology appointment with a **mole check** every 12 months.
4. **Children:** Young skin has a long memory. Protecting children today means preventing cancer 30 years from now.

Checking your own skin: the ABCDE rule

Check your moles once a month using this guide. If you notice even **two** of these signs, book an appointment:

Letter	Feature	Warning sign
A	**Asymmetry**	One half of the mole is different from the other.
B	**Border**	Irregular, ragged or blurred.
C	**Colour**	More than one colour (black, brown, red, white).
D	**Diameter**	More than 6 mm across, or growing quickly.
E	**Evolving**	Rapid changes in shape, colour or thickness.

Remember the **ugly duckling sign** too: a mole that looks "different" from all the others on your body needs attention straight away.

Diagnosis and treatment

Checking your own skin regularly means that in many cases you can spot changes in your moles and see a dermatologist in good time. For the early diagnosis of skin cancer, it is important to see a specialist every 12 months.

How is it diagnosed?

Detecting a melanoma today is simple and painless. The dermatologist examines the skin using **dermoscopy**, a special illuminated lens that shows structures invisible to the naked eye. If the doctor suspects a dangerous lesion, the next step is a **biopsy**: a small sample of tissue is taken and examined under the microscope to give a definite answer.

How is it treated?

Medicine has advanced enormously in recent years.



- **Surgery:** if the melanoma is caught early, surgical removal is often the only treatment needed and resolves the problem for good.
- **Smart drugs:** for more advanced cases, the older forms of chemotherapy are now rarely used. We now have **immunotherapy**, which teaches the immune system to recognise and destroy cancer cells, and **targeted therapies**, drugs that attack only the specific fault in the diseased cell without damaging healthy ones.

Advice if you are having treatment

Cancer treatments have transformed what can be achieved, but they can cause side effects on the skin too, leaving it drier, more fragile or more prone to irritation.

Don't be discouraged: these are common effects and they show that the drug is working. Always talk to your oncologist or dermatologist about them. There are now specific products and treatments that help protect the skin and maintain your wellbeing during treatment.

Prevention is your shield: know your skin, protect it and check it regularly.

Liver and bile ducts

LORENZA RIMASSA

Hepatocellular carcinoma is the most common form of liver cancer in adults; it arises in the hepatocytes, the main type of liver cell. It can begin as a single nodule or in multifocal form, with several nodules. A smaller but steadily growing share is accounted for by cholangiocarcinoma, or cancer of the bile ducts, the small tubes that carry bile.

EPIDEMIOLOGICAL DATA

In 2024 there were 12,600 new cases of hepatocellular carcinoma in Italy, with incidence twice as high in men as in women. Five-year survival is 22% for both sexes. In all, 30,200 people are living with a previous diagnosis. There are 5,000 diagnoses of bile duct cancer a year and five-year survival is around 15%. Around 11,000 people are living with a diagnosis of bile duct cancer.

Do hepatitis viruses increase the risk of disease?

Most cases of hepatocellular carcinoma arise in patients with chronic liver disease. **More than 70% of cases are caused by infection with the hepatitis C virus (HCV) or the hepatitis B virus (HBV)**.

About **a third of cases are linked to alcohol abuse**, and there is a steady increase in cases with a metabolic cause **(obesity, diabetes and others) or a mixed metabolic and alcohol-related cause.**



The same risk factors can be associated with cholangiocarcinoma, while **other risk factors are gallstones and chronic**

inflammation of the bile ducts. Patients at high risk (liver cirrhosis, chronic HBV or HCV infection) should have a liver ultrasound scan every six months to check whether cancer has developed. **Primary prevention of the virus-related forms rests on vaccination against HBV and on the HCV screening campaign launched by the Ministry of Health and now running in several Italian Regions**.

What are the most common symptoms?

Liver cancers cause no specific symptoms at first, and only at a more advanced stage can they cause **pain and a feeling of tightness in the abdomen,** weight loss, tiredness and loss of appetite. Bile duct cancers can also cause jaundice, dark urine and pale stools.

How is the disease diagnosed?

Diagnosis and staging rely on **imaging,** such as ultrasound, CT and MRI scans (including MR cholangiography), on endoscopic retrograde cholangiopancreatography (ERCP) for some bile duct cancers, and on **a biopsy for histological examination.**

Breast

ADRIANA BONIFACINO, NICOLETTA GANDOLFO

Breast cancer is a formation of tissue consisting of cells that grow in an uncontrolled and abnormal manner within the mammary gland. The various stages of the disease (I to IV) concern the involvement of the mammary gland alone, the surrounding tissues, and tissues from other parts of the body.

Early diagnosis is the most effective method of breast cancer prevention.

Lifestyle!



There are two fundamental and reliably effective allies in staying healthy: food and physical activity. Numerous scientific studies have shown that these should be considered as "medicines" to be used for prevention, as well as during and after treatment. **Healthy habits could prevent 40% of cancers overall.** (AIOM. Cancer Figures in Italy 2024).

Mammography screening

The public health mammography screening model envisages a free mammogram every two years for women aged 45/50 through 69/74, at the invitation of their local ASL (in some regions, like Emilia Romagna and Tuscany, mammograms are offered once a year for women between the ages of 45 and 49). If these investigations should reveal a significant and/or suspicious alteration, the patient will be called back for further investigation at a Level II public centre. The Veronesi Law of 23 December 2000, no. 388: a mammogram every two years, exempt from the co-payment (ticket), for all women aged between 45 and 69. **Adherence to the screening programme is an excellent tool for early breast cancer detection.**

EPIDEMIOLOGICAL DATA

Breast cancer is the most common cancer in women from the age of 35.
An estimated 53,686 new cases are diagnosed in Italy each year, which makes it by far the most common cancer in women, accounting for 30% of all cancers in women. There are currently 925,000 women in Italy living with a breast cancer diagnosis, with 6-7% being cases that have already metastasised. 45% of breast cancers are in women aged 45 to 74, 35% in women over 74 and 20% in women under 45. 1-2% of breast cancers affect men.
Five-year survival after diagnosis is 88%. For those who pass the first year, the probability of living further years is 91% (AIOM. Cancer Figures in Italy 2025).
This is a cancer that can be linked to a family history and, in about 10% of cases, to a genetic mutation (BRCA1 and BRCA2) that can also affect the ovary, prostate and pancreas. Further genetic mutations that we do not yet know about may also be involved; it is therefore important to take a careful clinical history from each person, woman or man, to establish whether there are grounds for genetic counselling.

What if you have breast implants?

All imaging tests can also be carried out in women with implants, whether cosmetic or following reconstruction after cancer, or preventive surgery in women carrying a genetic mutation.

What can you do if you are outside the screening age?

There is no current scientific evidence showing that mammography screening is effective as a public health model for women aged 40-45. At any age, however, if you have personal or family risk factors or any symptoms, it is worth consulting your family doctor to consider whether a personalised prevention pathway would be appropriate.

Can breast cancer be hereditary?

About 10-12% of all breast cancers are hereditary. In hereditary and familial syndromes, mutations may be found in two main genes (BRCA1 and BRCA2), but also in other genes. Individuals with family histories that include multiple cases of malignant breast, ovarian, prostate, pancreatic and/or stomach cancer (carcinoma), on the side of either the mother or father, may way to consider genetic counselling order assess the likelihood of a genetic mutation. In order to be proactive and take fewer risks, gathering information about your own family history (oncological, autoimmune, neurological, vascular diseases) can be a useful way to come up with a more personalised prevention pathway with your doctor.

What are the programmes to be followed in the case of family history, BRCA1 and BRCA2 genetic mutation, or very dense breast tissue?

The Ministry of Health and the Regions are aware of the need for prevention programmes dedicated to women who fall into these categories. Some regions already have personalised programmes dedicated to the highest risk groups, with admissions open to the public. **It is recommended to visit the your Region's website and consult with your doctor to find out whether any such programmes are already available.** However, there is an urgent need for a national programme that will put an end to local inequalities, and will be able to guarantee appropriate and effective public treatment programmes for all women. Associations dedicated to patients and citizens, like the IncontraDonna Foundation, are in constant contact with the institutions in order to assert these rights and ensure the presence of adequate and coherent public health programmes within every local area and region.

What are the selection criteria and who should have genetic counselling?

General criteria: several cases of breast cancer in the family (at least two or three), especially where they arose at a young age (two cases under 50; or even a single case under 35); breast cancer in a male family member, ovarian cancer, pancreatic cancer, breast and ovar-

ian cancer in the same family or in the same person, or bilateral breast cancer. Under some circumstances, (e.g. when there is a clear indication for the genetic-molecular test, and the family members with cancer are all deceased, or living relatives who do not agree to undergo the test) genetic counselling and the performance of the test on the healthy subject are also considered.

Where can one go for genetic counselling?

There are many dedicated public centres in Italy; it is always best to go to a large hospital or university centre with a unit specifically dedicated to medical genetics and hereditary cancers. The regional Breast Units also work with these centres.

For more on this, see the chapter "Hereditary and familial cancer risk" on page 114 of the Health Guide.

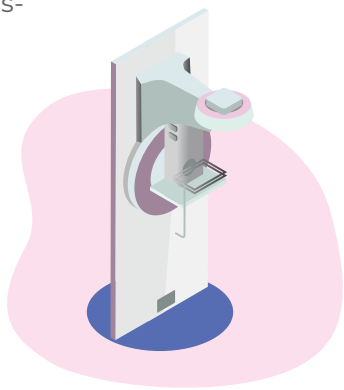
What kinds of instrumental investigations are carried out?

Attention! Keep your imaging results safe and bring them with you to every subsequent appointment.

Mammogram: an imaging test using an extremely low dose of radiation. The breast is compressed between two surfaces, thus allowing for any changes in tissue density, nodules, microcalcifications, distortions, or glandular asymmetries to be detected. There are several technologies: digital mammography (DM) and digital breast tomosynthesis (DBT). Tomosynthesis involves a three-dimensional (3D) reconstruction of the mammary gland. In regional screening it is currently offered to women whose breasts are dense on mammography (BI-RADS C and D) or where further assessment is needed (second level).

There are four radiological categories, A to D, describing breast density. Classes C and D are those which indicate the greatest density. Higher radiological density carries a higher risk of developing breast cancer. For early diagnosis, women in the higher categories benefit from an ultrasound scan alongside the mammogram and, in some cases, from contrast imaging (MRI or CEM), always at

the specialist's request. The BI-RADS classification is used to describe findings on mammography, ultrasound and MRI, and above all to indicate how likely they are to be significant. It has five categories for lesions: 1 (normal), 2 (benign), 3 (probably benign), 4 (suspicious for malignancy) and 5 (highly suspicious for malignancy).



CEM: contrast-enhanced digital mammography using an iodine-based contrast medium (you do not need to fast, and it can be done at any point in your menstrual cycle, but a recent creatinine test is essential). It can be considered as an alternative to contrast-enhanced MRI. This is recommended by the specialist in specific cases. It is not a routine test, but it shows potential in personalised screening models, particularly for women at high risk and for those with dense breasts.

Ultrasound scan: this uses ultrasound rather than radiation to detect changes in the breast tissue. It can also give information on blood supply (colour and power Doppler) and on the elasticity of the tissue (elastography). It can be performed at any point of the menstrual cycle. Mainly used in young women, and those with dense breasts, regardless of age. Mammography and ultrasound complement each other; one does not replace the other.

MRI (with contrast): this uses a magnetic field rather than radiation. It is only recommended by the specialist as an in-depth examination or to supplement the investigations, in specific cases where detailed tissue vascularisation imaging is required. A kidney function test (serum creatinine) is required, and the scan should be done in the second week of the menstrual cycle. It does not replace mammography and ultrasound.

What kinds of cell or tissue samples can be taken?

The need for sample collection is determined by the breast specialist (radiologist, clinician, surgeon, oncologist, radiotherapist) based on that which is revealed by the mammogram/ultrasound. In many cases, unnecessary surgery can be avoided. Where breast cancer is present, it allows detailed planning of the operation itself. In addition, thanks to recent technological and scientific advances, the examined tissue is able to be classified with increasing precision, with the possibility of adopting extremely effective and personalised treatments (hormone receptors, c-erb b2, Ki67 cell proliferation index, testing for particular genes in the tumour tissue). All samples, whether of cells or of tissue, are taken as an outpatient.

No form of cell or tissue sampling causes cancer cells to spread.

Needle aspiration: a sample of cells (for cytology) taken with an ordinary syringe needle, often guided by ultrasound, but also by stereotaxis (mammographic guidance) or, in some centres only, by MRI, from within a lump or an area of breast tissue that needs further assessment. It does not require a local anaesthetic and is recommended mainly for complex cysts that may need further assessment.

Biopsy: a sample of tissue (for histology) taken under local anaesthetic with a needle about 1 to 2 mm across, known as a tru-cut, which removes small fragments of tissue. It is now the recommended method for characterising solid breast lesions. The technique is minimally invasive and is extremely accurate in characterising breast cancer and its prognostic factors.

VABB (vacuum-assisted breast biopsy): a sample of tissue (for histology) taken with a special needle just over 2 mm across, connected to a vacuum system that allows several cores and a larger overall amount of tissue to be obtained for analysis. It is done under local anaesthetic, guided by ultrasound but above all by mammography or sometimes MRI (stereotactic), for suspicious distortions and microcalcifications that cannot be seen on ultrasound.

Who should I contact if I am diagnosed with breast cancer?

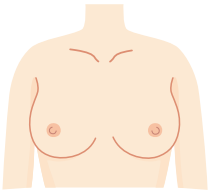
Each region has **dedicated Breast Units, which are identified by the Regions according to criteria established by the Ministry of Health.** The Breast Unit is public, and consists of a multidisciplinary team that takes care of the cancer patient throughout her journey. From diagnosis to treatment and support. The Breast Unit must begin treatment, whether surgical or pharmacological (time needed to plan and carry out all the preliminary investigations), within 30-40 days of diagnosis. Statistics have shown that being cared for by an interdisciplinary public Breast Unit can result in up to a 20% greater chance of recovery and survival 5 years after the event.

You can find your nearest Breast Unit
on the website **incontradonna.it**

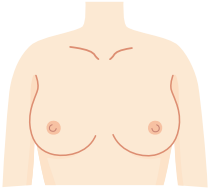
Breast self-examination

Checking your own breasts does NOT replace mammography and ultrasound.
Looking at and feeling your breasts regularly can bring to light changes to mention to your doctor, for assessment or advice. Choose the time when your breasts are least tender, which is the week after your period (or simply once a month if you are past the menopause or pregnant).

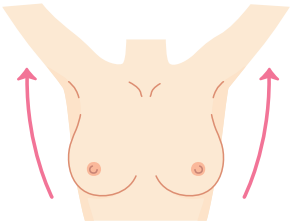
WHAT TO CHECK FOR



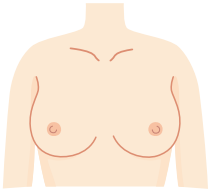
Stand in front of the mirror, with your arms at your sides. Observe and carefully compare the shape and volume your breasts and nipples. You will likely notice that they are not exactly the same. This is perfectly natural. Check whether any changes occur over time.



Next, carefully observe the profile of each breast as well. Check that there aren't any unusual changes in shape. Pay particular attention to any lump-like protrusions. Look at the skin as well: watch for any puckered or dimpled areas.



Standing in front of the mirror again, raise both arms. Look again at both breasts and compare them. Raising your arms also makes the features of the nipple easier to see. Observe the profile of your breasts in this position as well.

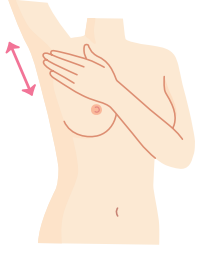


Last position. Stand in front of the mirror with your hands on your hips. Take a deep breath. Again, look carefully at both breasts. In this position the skin is tighter, so it is the best position for spotting any changes to the skin itself. Check the regularity of the profile again.

WHAT TO FEEL FOR



Lie down with a pillow under your back, which lifts the breast and makes it easier to examine. Raise your arm on the side of the breast to be examined, with your hand under your head. Perform the palpation with the other hand. Feel the breast in a spiral, working from the outside inwards towards the nipple. With your fingertips together, press gently but firmly, moving slowly in a circular motion towards the nipple. Check for changes in consistency (lumps or hard areas).



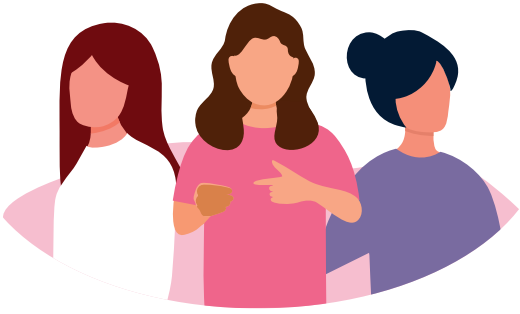
Now check the area between the breast and the armpit carefully too, starting from the fold underneath the breast. Do this with your arm raised and then with your arm down, sitting if you prefer. Sitting down makes it easier to feel any lumps deep in the armpit (lymph nodes).



Next, take the nipple between your fingers and press gently. Check that there is no discharge. You can also check for this while pressing on the breast. If any fluid comes out, check the colour with a tissue and tell your doctor.

Consult a doctor if you notice any of these symptoms:

- Any change from the usual shape or size of the breast
- Change in breast profile
- A change to the skin: puckered or dimpled areas
- Any lumps in the breast or armpit
- A change in the appearance of the nipple (for example, if it turns inwards: an inverted nipple)
- Secretions from the nipple
- Eczema (rash) of the breast



Breast implants and the risk of lymphoma

ARIANNA DI NAPOLI

Breast implants are medical devices regulated in Italy by Legislative Decree no. 46/1997, implementing European Directive 93/42/EEC, which lays out the criteria for their design and manufacture. Since they are considered class III devices (the highest risk class), their placement on the market requires a CE certificate to be issued by a relevant certification body. Implants are currently used for cosmetic reasons, as well as for reconstructive purposes in patients who have undergone mastectomies for breast cancer.

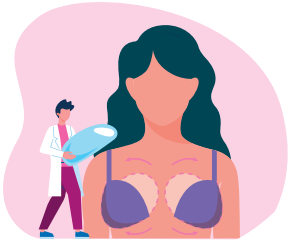
How many types of breast implants are there?

There are various types of implants. They come in a round shape with either a smooth or a rough (macro- or micro-textured) surface, or in a teardrop (anatomical) shape that mimics the natural shape of the breast, but only with a textured surface. Both are available in a wide range of sizes to suit the needs of each patient. They may be filled with silicone or with saline; there are also double-chamber implants, with silicone at the centre and saline around it. In Europe most implants fitted over the past 20 years have been textured, whereas in America they are mainly smooth.

What is breast implant-associated anaplastic large cell lymphoma (BIA-ALCL)?

Breast Implant Associated Anaplastic Large Cell Lymphoma BIA-ALCL) is a rare form of malignant cancer that develops around breast implants placed for both cosmetic and reconstructive purposes. The cancer originates from T lymphocytes, a type of immune cell, which, about 9 years after implantation on average, transforms into a lymphomatous cell that multiplies, creating a build-up of fluid (seroma) between the implant and the fibrous peri-prosthetic capsule (a kind of scar tissue surrounding the implant). In a minority of patients, the neoplasm manifests itself as a solid mass that grows within the tissues surrounding the implant and/or with

an enlargement of the axillary lymph nodes, or with an erythema (pathological reddening) of the skin on the breast.



BIA-ALCL must be distinguished from another form of lymphoma that can arise in patients with medical implants, including breast implants: fibrin-associated large B-cell lymphoma, in which the cancer cells show signs of infection with the Epstein-Barr virus. To date, 16 cases have been described in the international literature, including one case in Italy.

Another rare form of cancer that can arise in association with breast implants is squamous cell carcinoma (BIA-SCC), of which the US Food and Drug Administration (FDA) had reported 19 cases as of 8 March 2023. No cases have been reported in Italy.

How is the diagnosis made, and what is the clinical course of BIA-ALCL?

Diagnosis is carried out by cytological examination of the aspirated seroma under ultrasound guidance, or by histological examination of a fragment of the tumour mass or enlarged lymph node collected by surgical biopsy. The prognosis is generally excellent when a timely diagnosis is followed by the removal of the implant, the peri-prosthetic capsule, and all the tumour tissue.

What should women with textured implants do?

SHEER (the Scientific Committee on Health, Environmental and Emerging Risks) has stressed the importance of careful clinical follow-up for patients with breast implants, whether cosmetic or reconstructive, so that BIA-ALCL can be diagnosed early and treated promptly, which makes it largely curable. Your own doctor, plastic surgeon or breast specialist will advise how often you should be checked and which tests to have (ultrasound or MRI).

The Italian Ministry of Health is actively monitoring cases across the country, helped by various initiatives to raise awareness and

inform health professionals through circulars setting out the diagnostic and treatment pathway (PDTA) guidelines and the informed consent form to be given to patients before implantation, both drawn up by the standing Technical Working Group on BIA-ALCL set up by the Ministry in 2019. Moreover, the Ministerial Circular of 5 June 2024 recently limited the implantation of breast implants for cosmetic purposes to people who have reached the age of majority, with the exception of individuals with severe congenital malformations certified by a doctor affiliated with the National Health Service or a public health facility.

What is the incidence of BIA-ALCL?

As at 30 June 2024 the FDA had reported 1,380 cases of BIA-ALCL worldwide, including 64 deaths, while the American Society of Plastic Surgeons reported 1,618 as at 30 May 2025. In Italy, as at 31 March 2026, 141 cases and two deaths had been reported, with an estimated incidence of between 2.7 and 6.3 cases per 100,000 patients with implants. According to the FDA the lymphoma develops equally in patients with reconstructive implants (16% of cases) and cosmetic implants (16% of cases), while in 68% of cases the reason is not known.

Onco-haematology

LUIGI CAVANNA

Blood cancers are based on an irregular and uncontrolled growth of cells. They are **diseases that often arise in the bone marrow and lymphatic system.**

EPIDEMIOLOGICAL DATA

They account for an estimated 10% of all cancers in Italy, and 35,000 new cases are diagnosed each year. Seven out of ten patients manage to beat the odds and go on living normal lives.

Like with solid tumours, blood cancers have recognised **risk factors**, which can make them more likely to arise.



The most important are the following:

- **unhealthy habits** (obesity and smoking in particular);
- **environmental factors** (prolonged exposure to certain chemicals or to radiation);
- **side effects** of some cancer treatments;
- **age** (two thirds of cases are in people over 65);
- **certain diseases** or genetic factors;
- **infection** with certain viruses.

Blood cancers manifest with **non-specific symptoms that are often mistaken for trivial health problems** (fatigue, weakness, fever, aches, weight loss, minor bleeding, excessive night sweats, or itching). But signs such as these should **always** be reported to a doctor, who can then prescribe more in-depth examinations.

Onco-haematological diseases are detected through **specific** blood tests or through a bone marrow biopsy (or biopsy of an enlarged lymph node).

They are divided into three macro-groups:

- **Acute and chronic leukaemias:** these are caused by the uncontrolled proliferation of cells in the bone marrow, which is the factory for red cells, white cells and platelets
- **Lymphomas:** these affect the lymphatic system and above all the B and T lymphocytes, the cells whose job is to fight infection
- **Myelomas:** these affect the immune system cells that originate in the bone marrow, the plasma cells. They derive from the B lymphocytes which, together with the T lymphocytes, are among the main cells involved in the immune response.

Pancreas

MASSIMO FALCONI

The pancreas is a gland about 15 centimetres long, divided into three parts: the head (on the right), the body (in the middle) and the tail (on the left), lying high up and towards the back of the abdomen. Pancreatic cancer occurs when certain cells that make up the organ multiply out of control. The portion of the organ that produces pancreatic juices is called the "exocrine pancreas". About 90-95% of all cancers originate here. The part that generates hormones, on the other hand, is the "endocrine" part, and can account for the remaining 5-10% of all malignancies.

EPIDEMIOLOGICAL DATA

In 2024 there were 13,585 new diagnoses in Italy (6,873 in men and 6,712 in women). The five-year survival rates are 11% and 12% respectively. In all, 23,600 people are living with this cancer.

How does the disease manifest itself?

In the early stages there may be vague symptoms such as **diarrhoea, mood changes or depression.** By the time the disease is diagnosed, the most common symptoms are **pain, jaundice** (yellowing of the skin and the whites of the eyes) and **weight loss.** Symptoms can vary depending on where the tumour is and how far it has spread. Pain is present in 75 to 90% of cases. It is often constant and tends to get worse after meals and during the night. It is felt mainly in the upper abdomen and often spreads through to the back. Weight loss is usually marked and progressive, often



accompanied by loss of appetite. About 25% of patients also have diabetes.

Is it linked to certain hereditary genetic diseases?

Yes, in some cases it can be associated with **inherited syndromes or genetic conditions that increase the risk of developing it.** These include familial melanoma syndrome, Peutz-Jeghers syndrome, hereditary pancreatitis, some hereditary forms of colorectal cancer, BRCA gene mutations, cystic fibrosis, familial adenomatous polyposis, ataxia-telangiectasia and Fanconi anaemia.

What examinations should be carried out?

Diagnosis usually involves several tests, **such as ultrasound, abdominal CT, endoscopic ultrasound and, in some cases, MRI.** To confirm the diagnosis, however, a biopsy is often needed.

Lung

MASSIMO DI MAIO

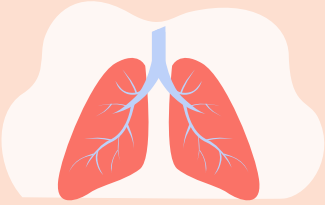
Lung cancer can develop from the cells that make up the bronchi, bronchioles and alveoli. It can form a mass that obstructs the flow of air, cause bleeding, or cause symptoms such as a cough or chest pain. There are two types: non-small cell lung cancer (the more common form) and small cell lung cancer (less common, and unfortunately often aggressive and fast-moving).

EPIDEMIOLOGICAL DATA

In 2024 around 44,800 new cases were recorded in Italy (31,900 in men and 12,900 in women). The number of deaths from lung cancer has fallen in men in recent years, but the picture in women is considerably less encouraging, reflecting the different trends in smoking. **Five-year survival is 16% and 23% respectively, but it is of course better where the disease is diagnosed early and worse where it is diagnosed at an advanced stage.** In all, around 109,000 people in Italy are living with lung cancer.

What are the symptoms?

The most frequent and common symptoms are a dry cough with phlegm (sometimes streaked with blood), difficulty breathing, minor bleeding with coughing, chest pain, weight loss, and fatigue. These **symptoms are non-specific, meaning that they are not always indicative of lung cancer**. People considered at risk, heavy smokers in particular, should nonetheless not ignore their symptoms.



The most advanced test for detecting the disease is spiral CT. To make a diagnosis, **by taking a piece of tissue,** either a bronchoscopy is needed (allowing the bronchi to be seen directly) or a percutaneous needle biopsy under CT guidance (in which cells are taken from the suspicious lesion using a needle passed in from outside the chest wall, through the skin, the space between the ribs and the pleura to reach the lung).

In recent years obtaining a piece of tissue has become crucial, not only for the "traditional" diagnosis, that is, examination of the tissue under the microscope by the pathologist, but also for the **molecular analysis that is essential in choosing the best drug treatment.** In many cases it is useful to take a biopsy not only at the time of the initial diagnosis but **also at later points as the disease develops,** for example where what the biopsy shows might help in deciding whether to change treatment. Taking a piece of tissue is not always easy: in recent years **important** technical advances have come with the "liquid biopsy", in other words analysing the DNA of the tumour in a "simple" blood sample. The liquid biopsy does not yet replace the traditional biopsy, but it is reasonable to expect it to be used more and more in clinical practice in future.

Are there prevention and screening programmes for early diagnosis?

Given how common lung cancer is and the mortality figures associated with it, it is important to **stress the importance of primary prevention, and of tackling smoking in particular** (the main risk factor, associated not only with conventional cigarettes but also with new-generation **nicotine inhalation products**), as well as **the importance of secondary prevention through screening.**

Clinical studies have shown that the use of low-dose spiral CT can reduce mortality in heavy smokers by about 20%. **Italy does not yet have a screening programme offered universally across the country** (as it does for breast and colorectal cancer). A population programme would be welcome, but to date screening has been available only within dedicated programmes, among them the Ministry's RISP programme (Italian Lung Screening Network), for men and

women considered at risk (aged between 55 and 75; having smoked at least a packet of cigarettes a day for more than 30 years; a heavy smoker who stopped less than 15 years ago).

What treatment options are there?

Treatments for lung cancer have **advanced considerably in recent years.** Besides "traditional" treatments such as surgery, chemotherapy and radiotherapy, we now also use **targeted drugs and immunotherapy.** These are innovative approaches that have transformed treatment and offer patients new hope. Many of the targeted drugs, used where the tumour has specific molecular changes (gene mutations or rearrangements), are taken by mouth. **Immunotherapy**, by contrast, uses drugs that help the immune system fight the cancer. They **can be given intravenously or, recently and at least for some of them, as a subcutaneous formulation.** Thanks to these classes of drugs, important progress has been made in recent years not only in treating advanced and metastatic disease but also in the management of patients with limited-stage disease, where the drugs can be given before surgery (neoadjuvant treatment) or after it (adjuvant treatment). Although there has been some progress in treating small cell lung cancer too, the outlook for this type of cancer remains, overall, very poor.

Prostate, kidneys, testicles, bladder

SIMONE ROTA, VALENTINA GUADALUPI, GIUSEPPE PROCOPIO

Genitourinary cancers account for a considerable share of all cancers recorded in Italy and, because they affect several different organs, they differ in their clinical features and in how they can be treated.

EPIDEMIOLOGICAL DATA

In 2024, 86,550 new cases were recorded in Italy across the four types.

Prostate cancer is the most common cancer in men in Italy. Of all the genitourinary cancers, it is the one for which **family history is a risk factor.** In the early stages it often causes no specific signs or symptoms and in many cases it is picked up during tests carried out for urinary problems caused by benign prostatic hyperplasia. A PSA test can be a useful way of reaching a diagnosis, but the result has to be interpreted by a doctor as part of an individual assessment, in deciding whether to go on to a urology appointment and further tests.

Testicular cancer is considered a "young person's" cancer, because it mainly affects adolescents and young adults. It is **curable in the great majority of cases, especially where it is diagnosed early,** but it can have a significant impact on fertility and quality of life. It is therefore worth paying attention to any change in the size, firmness or shape of a testicle and seeing a urologist if in any doubt.

Kidney cancer peaks between the ages of 50 and 70 and is more common in men. Several risk factors have been identified, relating both to lifestyle, such as smoking, being overweight and obesity, and to chronic conditions, including high blood pressure and diabetes, as well as some chronic kidney diseases and family history. Many kidney cancers are now found by chance, during tests carried out for other reasons.



In **bladder cancer the main symptom is haematuria, that is, blood in the urine.** If this persists or recurs it is a warning sign that should not be ignored, even where there is no pain. This matters particularly for men considered to be at higher risk, such as the over-50s and smokers.



Urological cancers can now be tackled with a range of effective treatments. Alongside surgery, radiotherapy and chemotherapy, **immunotherapy and targeted therapies have become established in recent years, widening the treatment options at many stages of disease.**

Prevention, both primary and secondary, remains essential: healthy habits, not smoking, keeping to a healthy weight and taking regular physical activity all matter. Medical check-ups and specialist appointments matter just as much, since they allow early diagnosis and prompt care.

Stomach

GIOVANNI BARBARA

Cancer is caused by the formation of tissue consisting of cells that grow in an uncontrolled manner. 90% of cases of stomach cancer form in the inner wall of the stomach, and are called adenocarcinomas.

EPIDEMIOLOGICAL DATA

In 2024, 14,105 new cases were recorded (8,593 in men and 5,512 in women). The five-year survival rates are 30% and 35% respectively. It is estimated that there are currently 72,900 people in Italy living with a gastric cancer diagnosis.

Are the symptoms generic?

They can be mistaken for those of much less serious diseases, such as gastritis or ulcers. The most common symptoms patients notice are digestive problems, loss of appetite, nausea and vomiting, a feeling of heaviness, stomach pain or burning, difficulty swallowing, blood in the stools or black stools, tiredness caused by anaemia and significant weight loss.



What is Helicobacter pylori?

It is a **bacterium that can colonise the stomach lining** (or gastric mucosa). It is a very common microorganism, and is **responsible for ulcers and gastritis. Chronic infection can lead to stomach cancer in some cases, if left untreated.** It is classified by the International Agency for Research on Cancer (IARC) as a Group 1 carcinogen. This is why the **bacterium has to be eradicated with a course of antibiotics prescribed by your family doctor.** The cancer risk is

reduced by eradication and endoscopic surveillance of any precancerous lesions that may have already developed.

How can the disease be detected?

Through **gastroscopy and biopsy**, which allow cancerous lesions to be definitively diagnosed through the collection and analysis of cells, or with a **CT scan**, which also allows the extent of the cancer to be assessed.

Thyroid

LAURA LOCATI, FRANCESCA CAROSI

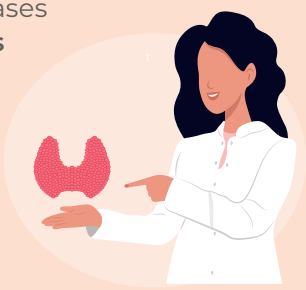
Thyroid cancers are not all the same. The most common form is differentiated carcinoma, which includes the papillary, follicular and oncocytic subtypes and which in most cases follows a favourable course. There are also rarer and more aggressive forms, such as anaplastic carcinoma and medullary carcinoma, the latter of which can sometimes be linked to an inherited predisposition.

EPIDEMIOLOGICAL DATA

In Italy in 2024 an estimated 11,378 new cases of thyroid cancer were recorded (3,056 in men and 8,322 in women). Five-year survival is 92% in men and 96% in women; 236,000 people in Italy are living after a diagnosis of thyroid cancer. Three out of every four new cases are now attributable to overdiagnosis, linked to inappropriate screening. Overdiagnosis means diagnosing a disease that would never have caused symptoms or problems during the person's lifetime, even if it had never been found.

What is the most common and widespread symptom?

The most common sign of thyroid cancer is **a lump (a small mass or swelling) at the base of the neck.** The lump is usually painless, may be found by chance (in the mirror, for example, or during an examination) and in most cases grows slowly. **Less common symptoms include a persistent hoarse voice, difficulty swallowing, a feeling of pressure in the neck and swollen lymph nodes.** Thyroid cancer often causes no obvious symptoms in the early stages, so most cases are found by chance during ultrasound scans or routine check-ups.



What are the main tests that allow a diagnosis to be made?

An ultrasound scan of the neck is the main test for assessing the thyroid and the features of any nodules. Where there is suspicion, a **needle aspiration** may be indicated, allowing the cells of the nodule to be analysed. **Blood tests** are used to assess how well the thyroid gland is working.

Are women at greater risk than men?

Women are affected about four times as often as men. The main **risk factors are exposure to ionising radiation,** particularly during childhood and adolescence, **a family history of thyroid disease and certain rare inherited genetic syndromes** associated with medullary thyroid carcinoma. Iodine deficiency can also contribute to some thyroid conditions. Thyroid cancer can also develop in people who have had radiotherapy to the neck in the past or who have been accidentally exposed to high doses of radiation, as happened in the nuclear accidents at Chernobyl and, more recently, Fukushima.

3.

In-depth analysis



Doctor-patient-caregiver communication

ANNA COSTANTINI

A recent Italian multicentre study of patients with advanced cancer found that 49% did not have accurate information about their prognosis. Of these, 60% felt that their family was protecting them from bad news and 56% would have liked to talk more about their illness with their relatives.

Systematic surveys have shown that **cancer patients would like to receive more information about their disease, future symptoms and how to manage them, treatment options**, and life expectancy, in ways that differ from person to person. In general, they would like to dialogue with **a doctor who is empathetic and asks them questions.** Talking about cancer, however, is easy for no one. Cancer is still something that instils a great deal of fear in the general population. It can strike at any age, it can change our outlook on life, and can alter our roles both inside and outside the family. Previous experiences interfere in our relationships with people who have fallen ill, by influencing the words we choose, in most cases not always in a conscientious manner. Paying attention to how we communicate matters for several reasons: first, because words bring about psychological change; second, because we cannot not communicate, so the question is whether we are really communicating what we mean to, or something else. There is nothing that is absolutely right or wrong to say, but **when we talk about illness some general pointers can make communication easier, help the right information get through and support the patient.** They are as follows:



1. **Use communication consciously**: saying "It will all be fine", "You'll see, it will all work out", "You're cured, there's nothing to worry about", "Don't worry, the CT scan will be fine" are phrases that offer premature reassurance. They bring immediate relief, but they can cause greater disappointment later if they turn out to be false hope. Saying "Don't worry" can also convey the idea that we are unwilling to listen to the person's fears. Another thing that people often say is: "You're strong, you have to fight this", which, in a certain sense, implies that it is not good to show weakness or to express anxiety, thus impeding the possibility of sharing negative thoughts.

2. **Be careful not to identify with the person**: don't say things like, "If I were in your place", of "If it were my father going through this." You are not the patient, and the patient is not your father. People have different life stories, personality traits, and ways of coping with stressful events.

3. **Pay attention to the non-verbal**: communication is not only verbal. Your tone of voice, expression, and posture are immediately grasped, long before any words are stated. Using a solemn or awkward tone, avoiding eye contact, or expressing exaggerated optimism when not appropriate for the situation can communicate that something is wrong and that you're trying to hide it.

4. **Bear in mind that cancer can bring on depression or anxiety even in people who have never experienced them**: seeing someone you love demoralised or depressed is painful and makes us feel helpless. To escape that feeling we may react with "Cheer up, it will only be worse if you let yourself go", "You mustn't even think such things", "You have to be positive, it helps you get better". As well as having no scientific basis, these responses trigger feelings of guilt, because the person comes to believe they are making their own illness worse.

5. **Be aware that emotions can cause embarrassment and a fear of not knowing how to handle them**: we sometimes try to block or play them down by changing the subject, by offering practical advice that was not asked for ("Take your mind off it", "Try

that supplement, it works wonders"), or with instructions such as "You're cured, there's nothing to worry about". Saying things like this will result in the patient feeling that they're not understood or that they can't freely express their emotions, prompting them to repress them in the future, thus leading to feelings of loneliness.

6. **Treat the person who is ill as an adult in their own right**: avoid treating them purely as someone who always needs protecting. Saying things like "Just let everybody else handle everything", "Let me talk to the doctors", or "Don't you worry about anything" is acceptable at certain stages of the treatment pathway, but helping the person maintain a sense of identity and a certain level of autonomy can also prevent them from feeling demoralised.

7. **Answer questions, but first try to understand what the person really wants to know** and how they want to be told, so that the conversation fits them.

8. **Help them understand what is happening:** this restores a sense of control that an illness like cancer takes away, and it avoids the psychological regression that can feed feelings of helplessness.

9. **Work out how to start the conversation**: it is hard to get past being lost for words when you face a conversation with someone you love who is ill. It is hard even for a doctor, trained in the technical side of the illness but never trained in how to handle difficult conversations about the intimate and the existential. One useful suggestion is to always begin with an open question like, "How are you?" because the person will start from whatever matters to them. Asking "How are you feeling?" also shows interest in their own experience and a willingness to listen, and it gives them permission to speak. Finally, it is important to listen to the patient without interrupting them with premature reassurances or minimisation, so that the patient is able to indicate how he/she wants to continue the discourse, as well as his/her needs and limits.

10. **Everyone has their own way** of dealing with life's storms, and their own point of fragility. Not everyone likes to talk about it

in the same way, or perhaps at that particular moment. There are even those who prefer not to talk about it at all, and to think about other things. The patient's personal preferences should always be respected.

11. **If we open a channel of genuine communication, we should expect emotions**: ours and those of the person who is ill. Cancer is a trying situation for everyone. It is therefore important to be prepared, not to be frightened by the emotions, and to express your sorrow in a genuine fashion. The point is that we cannot resolve the patient's health problems or prevent their suffering, but we can be supportive by expressing genuine interest and empathy.

12. **Having your emotional experience acknowledged** makes you feel deeply understood and brings the intensity of the emotion down. Empathy is one of the most powerful support tools for modulating emotions. It consists of the ability to understand how a person is coping with difficult situation, to see it from their perspective, and to communicate that understanding to them. For example, instead of saying, "Cheer up, everything will be fine", one can say: "This treatment must have been really hard for you to cope with", or "You must have been very disappointed with the results of the CT scan."

13. **It is possible to change where we find hope**. While the only hope we are able to give is that of winning the war against cancer, sometimes we win it, and sometimes we lose it. It is therefore better to help the individual find difference sources of hope. For example, one can give hope by highlighting the successes achieved in the field of medicine and in clinical trials, by being there, by saying things "I'll always be there for you", "We can talk whenever you want", "I'm here to support you in your decisions", by using appropriate terms like "chronic" rather than "incurable", or by helping to maintain a sense of worth, saying "Being brave doesn't mean not being afraid, but being able to cope", or "Being strong doesn't mean not feeling scared or discouraged."

14. **Human beings need to feel there is a reason to live, so it is important to help them look for sources of meaning**: "Even if you're sick, you're still a father, a husband, and a role model", or "You can live with your illness and still maintain your dignity, your identity, and your sense of self worth." Austrian psychiatrist Viktor Frankl wrote: "If you don't like something, change it. If you can't change it, change your attitude." More recently, on the other hand, Vialli wrote: "Life is made up of 10 percent of what happens to us, and 90 percent of how we deal with it."

The key role of doctor-patient communication in successful treatment

Good communication between doctor and patient is essential not only **in helping the patient adjust to the illness and in improving quality of life, but also in encouraging adherence to treatment**. Keeping an open dialogue with the medical team throughout the course of treatment helps the patient understand the treatments prescribed, the symptoms that go with them and how to manage them, with positive effects on both survival and quality of life. Being well informed about possible side effects allows patients to recognise them promptly and adopt the most appropriate ways of dealing with them. **A relationship built on clear**, truthful and supportive communication gives the patient the sense of being respected as a human being, **makes them an active participant in their own care and creates the conditions for a positive mental and behavioural attitude** towards treatment, while also reducing the anxiety that comes with losing control over what is happening to them. Constant support and good management of side effects strengthen confidence in the hospital and in the care team, strengthen the motivation to follow treatment as prescribed and, not least, can prevent the feelings of demoralisation that are so common in cancer. **Talking to your doctor and sharing every doubt or problem is the best way of facing this challenge together.**

Patient and caregiver rights

ELISABETTA IANNELLI

Information about the rights of cancer patients and their caregivers

In recent years **life expectancy for cancer patients has risen significantly, thanks to advances in scientific research** and in medicine. More and more people are cured completely or live with the disease for a long time. This change has brought **new needs beyond healthcare**, which call for practical answers in people's social lives, their finances and their work. It is essential that **patients and caregivers know their rights, so that they can deal with the difficulties the illness brings** and enjoy a better quality of life. For more on all this, see the publications of the Italian Association of Cancer Patients (AIMaC), written by Elisabetta Iannelli and reviewed by the INPS General Medico-Legal Coordination Office: “I diritti del malato di cancro” (The rights of cancer patients) and “Il diritto all’oblio oncologico” (The right to be forgotten for cancer survivors), from which the following information is taken.



Exemption from the healthcare co-payment (esenzione dal ticket) due to illness or disability

Cancer patients are entitled to **exemption from the healthcare co-payment (esenzione dal ticket) on grounds of illness (code 048)** for medicines, appointments and tests relating to the treatment of the cancer and its complications. Where disability status (invalidità civile) is recognised at 100%, full exemption (code C01) applies for any condition.

Welfare entitlements (disability status, invalidità civile, and recognised disability)

The Ministerial Decree of 1992 sets the **disability ratings for cancer patients (11%, 70% and 100%), giving access to the following welfare benefits according to how serious the illness is** and to

the person's financial circumstances: full-incapacity pension (pensione di inabilità), partial-incapacity allowance (assegno di invalidità), constant-care allowance (indennità di accompagnamento) and allowance for minors in treatment (indennità di frequenza). To obtain these benefits you need to apply to INPS, the national social security institute, in two stages: a certifying doctor completes the introductory cancer certificate online, and the administrative application is then submitted electronically.

In addition, recognition by INPS of a serious disability brings tax and employment entitlements, such as paid time off, paid leave, a say in where you work and flexible hours, so that treatment can be fitted around work.

Rights at the workplace

Cancer patients are entitled to a number of employment rights depending on the disability rating or the disability status established by INPS. Anyone recognised as having a serious disability can ask to be transferred to a workplace near their home and can refuse to be transferred without their consent. They are also entitled to duties suited to their working capacity and can be excused night work on production of a medical certificate confirming that they are not fit for it.

Part-time work and flexible remote working (lavoro agile) are useful ways of fitting treatment around work, with the option of returning to full-time hours once health permits. Cancer patients are exempt from the availability requirement for home sickness visits where they are on life-saving treatment or have a recognised disability rating of over 67%.

The paid time off and leave available includes:

- monthly paid time off (3 days, or 2 hours a day, under Law 104/92 (Legge 104/92));
- special leave for particular events (permessi per eventi particolari), 3 days a year;
- treatment leave (congedo per cure) for workers with a disability rating above 50% (30 days a year).

Law 106/2025 (Legge 106/2025) introduced the **following additional protections** for workers with cancer (with a disability rating of 74% or more):

- unpaid leave, without pension contributions, of up to 24 months, taken continuously or in instalments, with the job held open throughout. The period of leave does not count towards length of service but can be bought back for pension purposes through voluntary contributions paid by the worker
- priority for flexible remote working: on returning from leave, the worker is entitled to priority for flexible remote working, where this is compatible with their duties
- an additional 10 hours a year of paid time off for appointments, tests and treatment

Some collective agreements guarantee pay for days of absence due to life-saving treatment.

VAT-registered workers

Self-employed workers and professionals can obtain **financial support, governed by rules specific to their category**.

Law 106/2025 (Legge 106/2025) provides that self-employed workers who work on a continuing basis for one client (under article 14(1) of Law 81/2017) may suspend their work for up to 300 days in a calendar year in the case of cancer, or a chronic or disabling condition with a disability rating of 74% or more, on production of appropriate medical certification. During this period the client cannot terminate the contract on those grounds.

Pension entitlements

Workers with cancer who have at least 5 years of contributions can apply to INPS for recognition of pensionable incapacity, which brings the partial-incapacity allowance (assegno ordinario di invalidità) where working capacity is reduced to less than a third, or the full-incapacity pension (pensione di inabilità) where the person can no longer work at all. If the patient needs constant assistance and is not in hospital, they can also apply for a monthly allowance for personal assistance.

Anyone with disability status (invalidità civile) or more is entitled to 2 months of credited pension contributions for every year worked with that status, up to a maximum of 5 years, allowing them to retire earlier.

Blue badge for parking and access

Cancer patients undergoing treatment can obtain a blue badge from their local council, making it easier to get about.

The right to be forgotten for cancer survivors (oblio oncologico)

Since 2 January 2024, Law 193/2023 (Legge 193/2023) has guaranteed the right to be forgotten for cancer survivors, **preventing discrimination on the basis of a past cancer diagnosis.** People who have been cured for at least 10 years (or 5 years where the cancer was diagnosed before the age of 21) do not have to give any information about their illness, and cannot suffer any consequences from it, in areas such as insurance, mortgages, adoption and employment.

Caregivers' rights

Caregivers of cancer patients recognised as disabled or seriously disabled are entitled to **measures that help them combine work and caring.**

These include:

- a say in choosing the workplace nearest the person they care for, and no transfer without their consent;
- 3 days of paid time off a month (Law 104/92 (Legge 104/92));
- extended paid leave (congedo straordinario) of up to two years for continuous care;
- priority in converting full-time work to part-time;
- exemption from night shifts, for a better balance between caring and working life;
- donated leave, allowing them to receive days of annual leave given up by colleagues.

These **measures are essential in supporting people caring for a relative who is ill,** giving them greater flexibility and security. Practical support at a difficult time.

Immunotherapy

Helping the immune system fight cancer

PAOLO MARCHETTI AND ANDREA BOTTICELLI

In recent years oncology has seen one of the most important revolutions in its history with the arrival of **immunotherapy**, a treatment strategy that uses the body's own defences to recognise and fight cancer.

For a long time the main weapons against cancer were surgery, radiotherapy, chemotherapy, hormone therapy and targeted drugs. To these we can now add **immunotherapy,** which **has profoundly changed the outlook in many cancers and opened new prospects for thousands of patients.**

Our immune system's job is to protect us from viruses, bacteria and other outside threats, but it can also recognise and destroy abnormal cells that might turn into cancer. In the early stages of disease this mechanism often works well. Over time, however, cancer cells develop sophisticated ways of escaping immune control, managing either to hide or to block the action of the body's defensive cells.

Immunotherapy works on exactly these mechanisms. The drugs most used today, called **immune checkpoint inhibitors,** release some of the "brakes" that limit the immune system's activity, allowing the defensive cells to recognise the tumour again and attack it more effectively.

The results have been remarkable. In metastatic melanoma, a disease which until a few years ago offered very limited prospects, immunotherapy has achieved survival that would once have been unthinkable. These treatments were subsequently introduced, with equal success, in cancers of the lung, kidney, bladder and head and neck, and in some gynaecological and gastrointestinal cancers.

Immunotherapy has also taken on an increasingly important role in breast cancer. In patients with triple-negative breast cancer in particular, one of the most aggressive forms of the disease, combining immunotherapy with chemotherapy has been shown to improve clinical outcomes significantly.

One of the most innovative applications is the use of immunotherapy before surgery, in what is known as the neoadjuvant phase. Here, treatment can significantly increase the chances of a complete pathological response, that is, the disappearance of every trace of the tumour by the time of the operation. This is an important indicator of effectiveness and is associated with better prospects of cure.

Research continues to explore new frontiers. As well as the drugs already available, **therapeutic cancer vaccines, advanced cell therapies such as CAR-T cells, bispecific antibodies and strategies combining immunotherapy with innovative drugs and antibody-drug conjugates (ADCs) are all in development.**

Not all patients, however, respond in the same way. This is why **specific biomarkers are now being studied,** such as PD-L1 expression and other biological features of the tumour, which **help identify who is likely to benefit most from these treatments.**

Immunotherapy is one of the greatest advances in modern oncology. By reactivating the body's natural defences, it is transforming the way many cancers are treated and offering new opportunities, with the aim of making real what only a few years ago seemed impossible: living with the disease for a long time or, in many cases, being cured.

Healthy ageing

IGNAZIO UGO CARRECA AND ANNA PAOLA CARRECA

What is ageing?

Our idea of ageing has changed profoundly, moving from a rigid measurement in years to a multidimensional and dynamic understanding. For many years it was seen as a linear, gradual process; the most recent scientific evidence, however, shows that it **follows uneven patterns, marked by genuine biological accelerations at particular stages of life.** A multi-omic analysis carried out at Stanford University identified, for example, **two crucial turning points at around 44 and 60,** periods closely associated with sudden changes in lipid and glucose metabolism and in immune regulation.

These data confirm that **ageing is not simply the passing of time but a highly complex process** that affects and alters several key biological systems in interconnected ways:

- metabolism;
- immunity;
- muscle mass and function;
- the nervous system;
- the capacity for cellular repair.

Against this background, the World Health Organization **(WHO) defines healthy ageing as the process of developing and maintaining the functional ability that enables wellbeing in older age.** This approach, which underpins the United Nations Decade of Healthy Ageing (2021-2030), shifts the focus from disease to function: the absence of disease is no longer a requirement, since many chronic conditions, if well managed, have little effect on overall wellbeing. Although the social threshold of “old age” is still put at around 75, biology shows us that ageing is far more complex and cannot be reduced to a question of years alone. The trajectories of longevity are shaped by experiences accumulated from childhood

through adult life, and by the interaction between physical and mental health and social, behavioural and environmental determinants such as education, relationships and technology.

At the macroscopic and clinical level, **conventional medicine, organised around individual organs, often proves ineffective when several chronic conditions coexist in the same patient**. Longevity science, or geroscience, by contrast moves upstream to **tackle the biological causes at their root.** Our bodies work well thanks to two fundamental principles: cellular homeostatic balance and functional organ reserve. Thanks to these mechanisms, each organ can renew its stock of cells and repair the damage caused by the serious or persistent "insults" it suffers over a lifetime, keeping its function intact. Over time, however, this perfect system loses its effectiveness and can no longer meet the constant demands placed on it. Cell renewal slows and eventually stops, a phenomenon closely linked to the shortening of the telomeres, the functional elements at the ends of the chromosomes, which protect them like a cap. Every time a cell repairs itself and divides, the telomeres get shorter; when they become too short they stop working, setting off the process of cellular senescence in the organs.

Cutting-edge research is now converging on the **manipulation of these and other shared "molecular switches", which make up the 12 distinctive features *(or hallmarks*) of ageing:** genomic instability, telomere erosion, epigenetic changes, mitochondrial dysfunction and cellular senescence.

What are the parameters of ageing and senescence?

There is more and more talk of longevity medicine, but discoveries are coming so fast that it is easy to get lost between exaggerated promises and advertising slogans. This is why it helps to be clear and to use the right words:

- **Chronological age:** This is the age on our identity card. The more years pass, the greater the natural risk of developing diseases linked to ageing.

- **Biological age:** This is our body's real age. It indicates how our organs and cells are actually doing compared with a reference average. It should usually match our chronological age, but lifestyle (diet, exercise), genetics and the environment (pollution, for instance) can change it: someone who has had a long illness or lives unhealthily might be 50 on their identity card but have a body that is biologically 65, and be more fragile as a result.

- **Lifespan (*how long we live*):** This is simply the total number of years we live. It counts for little, though, unless it goes with limiting frailty, which means keeping to a minimum the final years spent with disability or without independence.

- **Healthspan (*how long we live well*):** This is the most important goal. It is the years we spend feeling well, staying strong, with a clear mind and an active social life. It is not just about adding years to life, but life to years.

- **Personalised medicine:** This is the approach that puts the whole individual at the centre. As well as biological data, it takes account of a person's psychology, their preferences and their habits. Remember that even identical twins, with exactly the same DNA, can age completely differently depending on the choices they make in life.

- **Exposome:** This is everything our body is exposed to from birth to old age: from air pollution to the food we eat, and stress. Measuring this "backpack" of environmental experience is a cutting-edge technology that doctors will use more and more in future to protect our health.

Types of cancer and treatments for the elderly

Italy remains **one of the longest-lived countries in the world,** second only to Japan for the proportion of older people. People over 65 make up around a quarter of the entire population (between 24% and 28% according to the most recent estimates). While this achievement testifies to the effectiveness of social and health progress, it also brings with it an **inevitable increase in diseases**

linked to ageing, cancer in particular. Around 395,000 new cancer diagnoses are recorded in Italy each year, and well over 60 to 65% of these are in the **over-65 age group.**

Cancer risk rises very sharply with age. This happens because of the gradual accumulation of small biological injuries in our cells, the frequent presence of other chronic conditions alongside (**comorbidities**) and the natural reduction in our organs' energy reserve and repair capacity, as described above. To get a sense of how much chronological age affects this risk, consider that **for someone over 70 the probability of developing cancer is about 10 times higher than for someone aged between 60 and 65,** and as much as 40 times higher than for an adult of 40 or 50. In more detail, between the ages of 60 and 69 the statistics are already close: one man in 5 and one woman in 8 face a cancer diagnosis. In older people, the cancers found most often are those of the following organs: **prostate; lung; breast; colon and rectum; bladder; stomach; pancreas.**

Treatment strategies

For a long time, treating cancer in older patients was seen as simply an extension of the protocols used for younger ones, on the **mistaken assumption that treating an older person was like treating an adult just a little further on in years.** This prejudice led to frequent errors of management, often resulting in "overtreatment", that is, treatment that was too aggressive, of the most vulnerable patients. The clinical consequences were serious: high toxicity and damage to several organs, treatment stopped early, and more deaths caused by the side effects themselves rather than by the disease. **Fortunately the outlook has now changed,** thanks to **geriatric oncology**, a discipline that promotes tailored treatment based no longer on the age on the identity card but on the **person's actual physical and mental condition,** on how many or how few **comorbidities** they have, and on their independence.

To guide doctors in these difficult choices, **patients over 65 are divided into three broad clinical and functional categories:**

- **Fit:** These are older people in good health, with excellent energy reserves and any pre-existing conditions well under control. Studies show that they tolerate the side effects of cancer treatment exactly as younger patients do, with entirely comparable results. For them, standard treatment remains the best option.
- **Vulnerable (intermediate, or unfit):** They have some early limitation in daily activities, or conditions that are only partly under control. Because they are at moderate risk of suffering from side effects, they need careful monitoring and precise adjustment of doses and treatment protocols.
- **Frail:** These are people in very delicate health with several coexisting conditions. In this group, attempts at aggressive treatment carry disadvantages far outweighing the advantages, becoming a dangerous course for minimal benefit. For frail patients, treatment should be kept to a minimum and strongly personalised or, where appropriate, directed solely at palliative care, to give the best possible quality of life without needless suffering.

To establish precisely which category a patient falls into, specialists now use **specific geriatric assessment tools.** Despite the effectiveness of this approach, however, there are still very few oncologists trained to personalise treatment for the most vulnerable patients. It is therefore an **absolute priority** that policymakers and those responsible for public health take this problem on, **investing in training specialists so that an ever longer-lived population receives care that is appropriate, dignified and sustainable.**

To **assess a patient's general health** and predict how they will respond to treatment, doctors can use specific tools. One of the main ones is the **Charlson Comorbidity Index**, which measures the impact of other existing diseases on the body by assigning a score (see table 1).

Table 1: Charlson Comorbidity Index

Charlson Comorbidity Index (1) and (2)

Comorbidity	Score		
Mild liver disease	1	Myocardial infarction	1
Diabetes	1	Congestive heart failure	1
Hemiplegia	2	Peripheral vascular disease	1
Moderate or severe renal disease	2	Cerebrovascular disease	1
Malignant cancer (any)	2	Dementia	1
Leukaemia	2	Chronic bronchopneumopathy	1
Malignant lymphoma	2	Connective tissue disease	1
Moderate or severe liver disease	3	Ulcerative gastritis	1
Metastatic malignant cancer	6		
Aids	6		

+6 indicates a 40% lower survival rate in 5 years

A **high score on the Charlson Comorbidity Index, above 6, is associated with poorer long-term survival** and a greater risk of complications and treatment-related toxicity.

To monitor **the side effects of drugs** in real time, a dual system is used:

- **The doctor's assessment (CTCAE scale):** a guide used by the oncologist to record and grade the severity of damage caused by treatment to the blood, the heart, the nervous system, the digestive system and the hormones.
- **The patient's diary (PRO-CTCAE system):** forms completed by the patients themselves, in which they report personal, subjective problems such as *fatigue* (extreme tiredness), pain, breathlessness, tingling in the hands and feet, diarrhoea or soreness in the mouth.

Putting the two sets of data together gives the medical team an immediate picture and allows them to protect the patient, changing or pausing treatment before side effects become too dangerous.

These also include the test: **"Timed Up and Go" (TUG),** which is very important in assessing a person's balance, ease of movement and physical frailty. The exercise is very simple: the person has to get up from a chair, walk 4 metres, turn round, come back and sit down again. The doctor measures how many seconds it takes.

The results are read as follows:

- **Under 10 seconds:** Mobility is excellent and normal.
- **Between 10 and 20 seconds:** Movement is beginning to slow a little.
- **20 seconds or more:** There is a clear reduction in mobility. This score is a clear sign of physical frailty and indicates a high risk of falls.

Older people, obesity and cancer risk

Obesity is now recognised as a complex, chronic and relapsing disease, associated with an increased risk of cardiovascular disease, type 2 diabetes and many cancers. Where cancer is concerned, excess body fat, and visceral fat in particular, is associated with a higher risk.

Visceral fat plays a particularly important part because it promotes low-grade chronic inflammation, insulin resistance and metabolic changes that can contribute to carcinogenesis and worsen the overall risk profile.

Italy has taken a historic step: with the final approval of **Law 149/2025 (Legge 149/2025)**, it became the first country in the world to recognise **obesity officially as a chronic disease**. In early 2026 the scientific community also signed the **"Erice Charter on Obesity"**, a manifesto setting out the pillars for treating the condition locally through specialist centres, promoting sport and a healthy lifestyle to damp down the inflammation caused by excess fat.

Diagnosis has changed too: the old Body Mass Index (BMI) is no longer enough, because it does not distinguish muscle from fat. What is now assessed is **how abdominal fat is distributed**, since it

is far more dangerous for the heart. The reference measure is the **waist-to-height ratio, which should stay below 0.5** for both men and women. Someone 170 cm tall, for example, should have a waist measurement of less than 85 cm.

Keeping **an active lifestyle and taking regular physical activity** brings extraordinary benefits to the whole body, acting as a natural medicine in its own right. In general terms, movement has a positive effect on three pillars of our health:

- **Mind and mood:** It reduces stress and eases the symptoms of anxiety and depression, because it stimulates the production of endorphins (the "happiness hormones"), improving self-esteem and self-confidence.
- **Heart and circulation:** It strengthens the heart muscle, lowers blood pressure and improves blood flow, drastically reducing the risk of heart attack and stroke.
- **Muscles and bones:** It keeps the body strong and supple, countering the loss of muscle mass and reducing the risk of osteoporosis and fractures.

In addition to these universal benefits, **regular physical activity is of very high clinical value in oncology too, as the most recent scientific evidence confirms.** A wide-ranging review published in the *British Journal of Sports Medicine* showed that following structured exercise programmes improves the health of people undergoing cancer treatment, both during and after therapy, and **also reduces the toxicity of certain drug treatments.**

In short, physical activity is a fundamental part of cancer treatment. To be effective and safe, **every programme has to be tailored to the patient, taking account of their age, their independence, their other conditions and the stage of treatment.**

An oncologist treating an older person with cancer should be able to provide personalised treatment for **unfit** patients (those with reduced functional reserve and greater vulnerability, but still candidates for adapted treatment) and **frail** patients (with impairment

across several domains, who need more conservative and supportive approaches), with minimal toxicity and side effects, or palliative treatment only. There are currently very few such experts out there. Policymakers should take this on as a matter of the highest priority, given the steady increase in the number of such patients.

Personalised medicine: the right treatment for the right person

PAOLO MARCHETTI AND ANDREA BOTTICELLI

Medicine has undergone a genuine revolution in recent years. Where patients with the same disease once received similar treatment, we now know that every person is unique and that apparently identical cancers can have very different biological features. Out of this understanding comes personalised medicine, an innovative approach that makes it possible to choose the most effective treatment for each patient, improving results and reducing side effects.

Personalised medicine puts at the centre not only the disease but the whole person. Each of us has a unique genetic make-up, our own medical history, our own habits and our own state of health. All of these can influence how we respond to treatment and whether side effects appear.

One of the most important advances of recent years is the ability to study the genetic characteristics of the tumour. We now know that cancers arising in the same organ can be very different from one another. Analysing the DNA of the cancer cells makes it possible to identify molecular changes that help us understand how the disease will behave and which drugs are most likely to work.

In some cases this information can also be obtained through a **liquid biopsy**, a simple blood sample that detects fragments of circulating tumour DNA. This technology **allows the disease to be monitored less invasively and any resistance to treatment to be picked up early.**

Understanding molecular changes has encouraged the development of increasingly targeted drugs. Examples include **elacestrant** for patients with an ESR1 gene mutation, anti-HER2 drugs for particular forms of breast cancer and **osimertinib** for specific genetic changes in lung cancer. These treatments act selectively on the mechanisms driving the growth of the tumour, increasing effectiveness and limiting damage to healthy tissue.

Among the most promising innovations are **antibody-drug conjugates (ADCs)**, often described as "smart chemotherapy". These drugs use an antibody as a delivery system, able to recognise cancer cells and deliver a highly active drug directly inside them. The ADCs available today include **trastuzumab deruxtecan, sacituzumab govitecan and datopotamab deruxtecan**, which are changing the treatment of many forms of breast cancer.

Advanced genomic tests such as **next generation sequencing (NGS)**, which allow hundreds of genes to be analysed at once, also play a fundamental part. The results are discussed in **Molecular Tumour Boards**, multidisciplinary groups of oncologists, molecular biologists, geneticists and pathologists who work together to identify the best treatment strategy for each patient.

Artificial intelligence is entering clinical practice too, helping doctors analyse large amounts of clinical and molecular data to support increasingly precise decisions.

Personalised medicine is one of the greatest achievements of modern medicine. By bringing together genetics, innovative technology, targeted drugs and a multidisciplinary approach, it is possible to offer treatment that is more effective, safer and built around the characteristics of the individual. We no longer treat only a disease: we treat a person, with their own history and their own particular features.

Metastatic disease: the main innovations

GIACOMO BARCHIESI AND GABRIELE PIESCO

Metastatic breast cancer: the main innovations

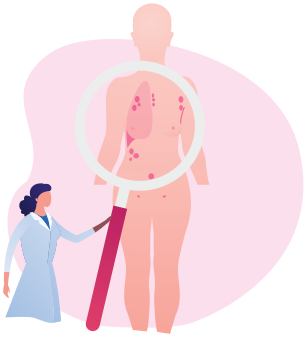
Breast cancer is described as metastatic when the cancer cells spread from the breast to other organs through the blood or the lymphatic system. The sites most often involved are the bones, liver, lungs and brain.

Although in most cases metastatic disease cannot be cured outright, **advances in research have profoundly changed the outlook for patients.** A wide range of treatments is now available that can slow the growth of the tumour, control symptoms and, in many cases, allow **a good quality of life for ever longer periods.**

One of the most important aspects of modern oncology is **the personalisation of treatment. Every cancer has specific biological features that can influence the choice of treatment.** This is why tests are carried out on the tumour tissue and, in some cases, genetic and molecular analyses that help the doctor identify the most appropriate treatment strategy.

The options available include **hormone therapy, chemotherapy, immunotherapy and targeted drugs.** Innovative treatments have been added in recent years that have significantly improved results in several forms of breast cancer.

Among the most significant innovations are **antibody-drug conjugates (ADCs)**. These drugs combine a monoclonal antibody with a highly potent chemotherapy molecule. The antibody recognises specific proteins on the surface of the cancer cells and carries the drug directly inside them, increasing the effectiveness of treatment and limiting the exposure of healthy tissue. ADCs have shown important benefits in patients with HER2-positive and HER2-low cancers and in some forms of triple-negative cancer.



Another innovation is the **liquid biopsy**, a technique that allows tumour DNA in the blood to be analysed from a simple sample. In selected situations it can provide useful information for monitoring the disease and identifying gene changes that can guide the choice of treatment.

The aim of research is to make treatment ever more effective and ever more personalised. **Thanks to continuing advances in precision medicine and the development of new treatments, metastatic breast cancer is now a disease that can be controlled better** than in the past, offering many patients new treatment opportunities.

Onco-fertility and sexuality

FRANCESCA POGGIO, LUCIA DEL MASTRO

In Italy about one breast cancer in ten is in women under 40, and breast cancer accounts for more than 40% of all cancers diagnosed before the age of 50. What is more, partly because women are having their first child later, more and more of them have not yet completed the family they hoped for by the time they are diagnosed.

Cancer treatments such as chemotherapy can damage fertility and bring on an early menopause. The risk varies according to the patient's age, her ovarian reserve and the type of treatment she receives. **The goal of treatment today includes not only cure but also protecting plans for a family in the future.** It is therefore essential to tell patients, before treatment begins, about the possible consequences of treatment and about the options available for preserving fertility.

The main strategies are:

- **embryo freezing:** currently prohibited in Italy under Law 40/2004;
- **egg freezing:** this involves hormone stimulation and is indicated for patients who can postpone chemotherapy by around two to three weeks and who have an adequate ovarian reserve. The technique consists of hormone stimulation with drugs, followed by egg retrieval and then the assessment, selection and cryopreservation of the eggs. The chances of success depend above all on the patient's age and on the number of eggs retrieved;
- **ovarian tissue freezing:** this technique is still considered experimental, but it can be used where the methods above are not possible because of age or because of the timing of cancer treatment. It involves the laparoscopic surgical removal of ovarian tissue, which is then frozen and re-implanted at a later date. It requires no hormone stimulation and can be carried out at any point in the menstrual cycle;
- **protecting the ovaries with drugs**, using GnRH analogues (synthetic hormones similar to human sex hormones): this induces a temporary resting state in the ovaries during chemotherapy,

reducing the risk of an early menopause and increasing the chances of pregnancy after treatment. The drug was approved by AIFA, the Italian medicines agency, in 2016 and is now established practice, provided for in both national and international guidelines. Ovarian suppression with GnRH analogues and the other cryopreservation strategies are not mutually exclusive and can be combined to increase the chances of preserving fertility in young women with cancer who are due to receive chemotherapy.

A recent Italian multicentre study of 746 premenopausal women with breast cancer confirmed a **growing need for onco-fertility counselling, with around one patient in four under 40 choosing to have her eggs frozen** (Lambertini M et al, GS3-02, San Antonio Breast Cancer Symposium 2025).

Prospective data confirm that controlled ovarian stimulation for egg freezing does not harm survival, even in receptor-positive breast cancers, and that preserving fertility, if properly planned, does not significantly delay the start of cancer treatment.

These findings also underline the **importance of discussing fertility preservation options promptly, before chemotherapy begins.**

Sexuality, as well as fertility, can be affected by cancer and its treatment. The consequences may be individual or shared with a partner, affecting self-esteem, body image, desire and the quality of relationships and sexual life. It is essential to address these aspects as an integral part of care.

The approach is multidisciplinary and usually involves an oncologist, a gynaecologist, a psychologist and a sex therapist. The aim is to help the patient understand and manage the changes in her body, supporting her physical and mental wellbeing, her awareness of her own sexuality and fulfilling relationships, both during and after cancer treatment.

When active treatment is no longer effective

GIUSEPPE CASALE

There are times when, despite all the advances in medicine, the treatments available can no longer stop the disease. It is a difficult conversation, for the doctor as much as for the patient and the family: it means there is no longer any treatment that can cure the illness or control it effectively.

Medicine, particularly in oncology, has made enormous progress in recent years. More and more people are cured, and many cancers can be kept under control for a long time thanks to new drugs, surgical techniques and radiotherapy. Many cancers in women in particular can now be managed as chronic diseases.

There are situations, however, in which the disease keeps progressing despite treatment. Where cancer affects organs such as the bones, lungs, liver or brain, significant symptoms can appear, such as pain, difficulty breathing, severe tiredness or other problems that **affect quality of life.**

In these cases the specialist may decide to stop what is known as "active treatment" and refer the patient to palliative care. This does not mean giving up on caring for the person, but changing the goal: no longer fighting the disease at all costs, but ensuring the best possible quality of life.

Unfortunately, palliative care is still often associated only with the last days of life. In fact, its **purpose is to help the person live with as much peace and dignity as possible, by controlling symptoms such as pain, breathlessness, nausea, anxiety and sleeplessness.** Many studies show that starting palliative care early allows patients to live better and, in some cases, longer as well.

Palliative care also avoids unnecessary or burdensome tests where they would bring no real benefit. CT and MRI scans, ultrasound and

blood tests are carried out only where they genuinely help the person's wellbeing.

The greatest fear for anyone facing advanced illness is feeling abandoned. Palliative care exists precisely to prevent that. The word comes from the Latin pallium, meaning "cloak": an image of protection and closeness.

Specialist palliative care teams look after not only physical symptoms but also the psychological, social and spiritual aspects of the patient's life and that of the family. The aim is to accompany the person with skill, respect and humanity, ensuring dignity and attention to the very last moment of life.

Palliative care is neither the abandonment of treatment nor treatment at any cost. It is care centred on the person, because it is not just about adding days to life, **but about adding life to days.**

Research, scientific innovation and quality of life

LUCIA DEL MASTRO AND DAVIDE SOLDATO

Research and scientific innovation play a fundamental role in improving the prognosis and quality of life in women diagnosed with cancer.

Among women, breast cancer is the type of cancer most frequently diagnosed. In Italy, the latest epidemiological data, published in "The Cancer Figures in Italy 2025", estimate 53,686 new cases diagnosed in 2024. The same report notes that around 925,000 women in Italy are living after a past diagnosis of breast cancer, 55,000 of them with a diagnosis of metastatic breast cancer. **Recent advances in cancer research and the availability of new drugs have led to a dramatic improvement in terms of prognoses.**

Today, **over 90% of women are still alive 10 years after being diagnosed with breast cancer**, and the 5-year survival rate for women with metastatic cancer has increased by 16% over the past 20 years. Unfortunately, breast cancer is still the leading cause of cancer death among women, and it is therefore essential to continue to promote and support research aimed at further improving these results.

In recent years, **thanks to scientific research** and a better understanding of cancer, it has been possible to **introduce drugs that have revolutionised the treatment of cancers in women** and of breast cancer in particular.

A better understanding of how cancer cells multiply has led to the development of **"Cyclin-dependent kinase (CDK) inhibitors"** for the treatment of women with breast cancer expressing receptors for female hormones. These drugs **act in an intelligent manner to block cancer cell multiplication**, and their use has dramatically improved survival for women with metastatic breast cancer, and has **significantly reduced the risk of recurrence** for women with early-stage breast cancer.

Another important innovation has to do with the way in which cancer cells are targeted by drugs, for example thanks to the use of **"antibody-drug conjugates"**. These are drugs that **target cancer cells selectively**, releasing a chemotherapy agent inside them, so reducing the effect on healthy cells and **limiting side effects.** These drugs are now used to treat all forms of metastatic breast cancer, and have been shown to improve survival rates with respect to conventional chemotherapy drugs.

Thanks to scientific research, it has been possible to **develop strategies for reducing the use of some treatments without increasing the risk of recurrence**, for example through the use of **genomic tests**. These tests make it possible to **analyse tumour tissue in greater depth**, and to determine whether or not chemotherapy should be administered as a preventive measure after the surgical removal of the breast cancer expressing receptors for female hormones.

Finally, scientific research has led to numerous achievements in terms of improving quality of life for women suffering from breast cancer. These include, for example, the introduction of new drugs to reduce side effects, the use of **new strategies to preserve ovarian function and maintain fertility** in young women, and an increased focus on integrated strategies aimed at preserving women's physical well-being both during and after treatment. **Similar results have been obtained with other cancers affecting women.** Examples include the **use of innovative drugs** for the treatment of **ovarian cancer** in the presence of specific gene alterations, the introduction of immunotherapy for the treatment of **endometrial and cervical** cancer, and the introduction of **HPV vaccination campaigns for the latter as well.**

SCIENTIFIC INNOVATION, QUALITY OF CARE AND QUALITY OF LIFE FOR CANCER PATIENTS

Scientific innovation has an extremely positive effect on the quality of cancer care, bringing significant improvements both in clinical results and in patients' overall experience of treatment.

Thanks to advances in research, we now have treatments that are more effective, more targeted and less invasive, which improve the chances of cure or of controlling the disease and reduce side effects. Innovative, low-impact ways of giving treatment are also **becoming more widespread**, such as subcutaneous and oral therapies, which shorten the time spent in hospital, **helping patients through treatment with less stress and discomfort and so contributing to a better quality of life** throughout their care.

The introduction of **advanced technology and personalised treatment is an important step towards cancer care that is more effective, more humane** and more centred on the patient's needs.

Hereditary and familial cancer risk

MARIA PIANE AND SIMONA PETRUCCI

Genetics studies the way inherited traits pass from one generation to the next, and the changes in individual genes that can cause genetic disease or predispose people to it, by examining genomic DNA, usually obtained from a venous blood sample.

Genomics, on the other hand, deals with groups of genes expressed in a specific tissue, their functions, and how they interact with each other. Both play a role in the development and treatment of numerous forms of cancer. Cancer is a disease with a multifactorial aetiology, which is influenced by hormonal, metabolic, environmental, immune, and genetic factors.



Where can cancers originate?

Cancers may be **sporadic**, familial or hereditary. Sporadic cancers occur with only one case being present within a family, and are generally caused by genetic variants, called "somatic" variants, which originate in one or more cells of the body. These acquired variants are not passed on to offspring.

Familial cancers involve more than two relatives on the same side of the family and may result from several genetic factors or from shared environmental exposures. Hereditary cancers, on the other hand, are associated with a specific genetic predisposition, related to the presence of so-called "constitutional" or "germline" variants, present in all cells of the body, and transmissible to offspring. These are variants that give the carrier an increased risk of cancer with respect to the general population. In other words, **one does not inherit the cancer itself, but rather the risk of potentially developing it**. It is important to note that both sexes can inherit deleterious variants, and in turn pass them on to their offspring.

According to the latest data (source: AIOM AIRTUM 2025), it is estimated that between 20,000 and 40,000 people in Italy who carry a pathogenic variant develop cancer each year. The most frequent cases are: breast cancer (8,385), colorectal cancer (2,922), lung cancer (2,690), prostate cancer (2,412) and pancreatic cancer (1,902). Over the past 30 years more than 150 genes have been identified whose pathogenic variants carry a moderate or high risk of cancer (2 to 20 times higher). **The most common include deleterious variants in the BRCA1/BRCA2** genes, which increase the risk of developing breast and ovarian cancer. However, **mutations in these genes do not exclusively affect women. Me can also inherit deleterious variants, and in turn pass them on** to their offspring. Male carriers are more prone to male breast cancer or prostate cancer. The risk that a pathogenic variant in BRCA1 or BRCA2 will be transmitted from the carrier parent to their offspring is 50%.

Pathogenic variants in the DNA repair genes (MMR): MLH1, MSH2, MSH6 and PMS2, together with deletions of the EPCAM gene, are relatively common and are the cause of **Lynch SYNDROME (LS)**. This is an **inherited condition affecting between 1 person in 660 and 1 in 2,000, depending on the population,** and **it carries an increased risk of developing several cancers over a lifetime**. The most common are **colorectal cancer and endometrial cancer,** which often appear from the fifth decade onwards, that is, earlier than non-hereditary cancers. LS can also be associated with cancers of the ovary, stomach, small intestine, urinary tract, pancreas, bile ducts and central nervous system (glial tumours in particular), and with certain skin tumours such as sebaceous adenomas and carcinomas and keratoacanthomas.

The DNA repair defect can be identified by analysing the tumour tissue, particularly in colon cancers. Microsatellite instability or loss of MMR protein expression are important signals that allow the patient to be referred for genetic counselling to check for an inherited variant. As with all autosomal dominant conditions, **in Lynch syndrome too there is a 50% risk that a parent who carries the variant will pass it on to their children.**

What should be done if there have been certain types of cancer in one's family?

Members of families in which there have been one or more cases of the aforementioned types of cancer **should consider seeking cancer genetic counselling** (especially if the cancers arose at a young age).

Genetic counselling is an essential step for anyone who may have an inherited predisposition to a disease, cancer included. It is a **structured medical process that assesses family history and personal risk, selects the most appropriate genetic test,** explains its benefits and limitations, obtains specific informed consent, interprets the results correctly and explains what they mean for the patient and for their relatives.

It is possible to identify, within a family, healthy people who carry genetic changes that predispose them to cancer.

Relatives at risk should be offered genetic counselling (usually first-degree relatives at risk of having inherited or passed on the harmful variant)

This makes it possible to identify prevention strategies, or active monitoring (active surveillance) with frequent tests for the early diagnosis of cancer.

Find out more:
See the table of genes at:
www.incontradonna.it/tabella-geni

Cardiometabolic health, obesity and cancer prevention

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Although **cardiovascular disease and cancer** are commonly considered two separate conditions, they have many points of contact, including **a number of shared risk factors** such as obesity, diabetes and chronic inflammation, which are multifactorial conditions linked not only to unhealthy habits but also to biological, genetic and environmental factors.

For 2025 too, more than 390,000 new cancer diagnoses were estimated in Italy (AIOM data), a figure that continues to rise, partly because of the spread of unhealthy habits. **Excess weight is a significant risk factor for both cardiovascular disease and cancer** and, in Italy, **around 36% of the population is overweight** and 12% frankly obese, with a **worrying increase in excess weight among children**, especially in the south.

How are metabolic syndrome, diabetes and obesity defined?

Metabolic syndrome is a complex condition in which risk factors for **diabetes mellitus** and for cardiovascular disease are present at the same time: **a large waist measurement, fasting blood glucose of 100 mg/dl or above or other disturbance of glucose metabolism, triglycerides above 150 mg/dl, low HDL cholesterol (below 40 mg/dl in men and 50 mg/dl in women), and high blood pressure. Diabetes** is a metabolic disorder caused by a defect in the secretion or the peripheral action of insulin and **characterised by fasting glucose levels of 126 mg/dl or above**. **Obesity** is a **condition of excess body fat,** defined by a ratio of weight (in kilograms) to height squared (in metres) of 30 or above (25 for overweight). Central obesity is **an accumulation of fat at the abdominal level**, defined by a waist circumference, measured at the navel, greater than 102 cm in males and 88 cm in females. **It is the lowest common denominator of metabolic syndrome**, in which it occurs alongside type 2 diabetes or prediabetes, high blood pressure and what is known as atherogenic dyslipidae-

mia, that is, triglycerides above 150 mg/dl and HDL cholesterol below 40 mg/dl in men and 50 mg/dl in women.

What are these conditions caused by?

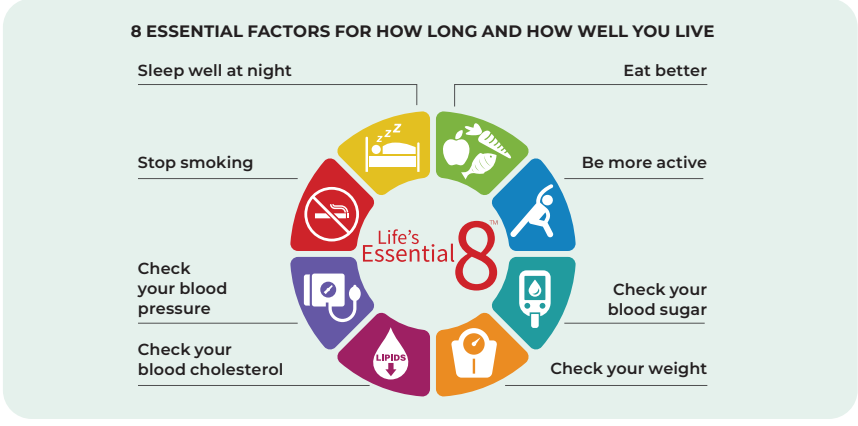
These conditions develop for many reasons, shaped by unhealthy habits, poor diet and inactivity in particular, in people with a genetic predisposition.

How can they be prevented and treated?

Prevention rests on **adopting healthy habits from childhood** or, where that has not happened, on making changes as early as possible in adult life (a balanced diet, exercise, not smoking and not drinking to excess). These changes remain fundamentally important once these conditions have developed, alongside any medication agreed with your family doctor. **Prevention is therefore essential, but the proper management of the condition once diagnosed is also extremely important to avoid potentially serious complications.**

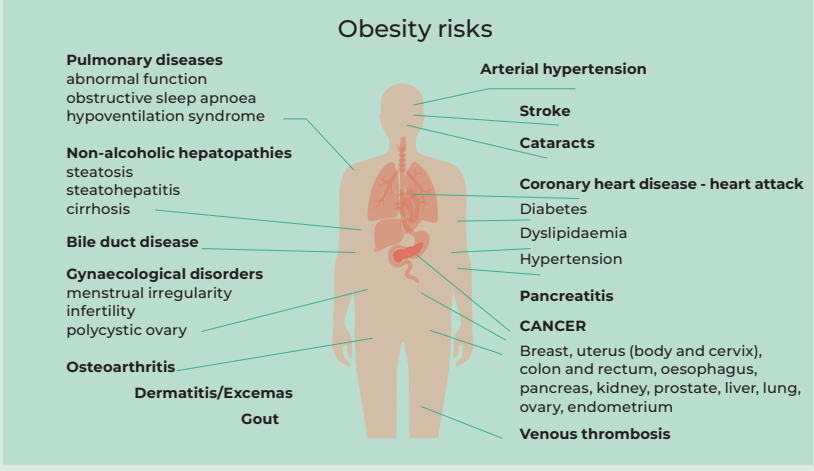
Preventing cancer and cardiovascular disease together is possible

- up to 40% of cancers can be avoided through healthy habits
- the same behaviours also reduce cardiovascular risk



FOCUS: obesity is a complex, chronic disease. And it has to be treated as one.

Excess weight is a significant risk factor for both cardiovascular disease and cancer, and in Italy it affects 4 adults in 10: 33% of the population is overweight and 10% obese. (AIOM data).



Body weight depends on a combination of physical and genetic factors, but also on socio-economic, cultural, environmental, relational and emotional ones that can influence a person's eating habits and way of life. Education in primary prevention and the management of overweight and obesity therefore call for a **multidisciplinary approach**: **healthy habits, together with awareness and accurate medical information.**

➲ **Find out more.** If you think you may be overweight or obese, talk to your doctor. They will be able to refer you to a specialist who can give you a diagnosis and support you along the way.

Obesity is a cancer risk factor too

40% of deaths are caused by modifiable risk factors, smoking, alcohol, inactivity and excess weight in particular. **Severe excess weight** is **one of the main risk factors for many chronic dis-**

eases, including **cardiometabolic disease and cancer**, among them cancers of the endometrium, colon and rectum, oesophagus, kidney, pancreas and breast, especially in women after the menopause. It can also undermine the effectiveness of treatment and increase the risk of complications and recurrence. Physical activity and healthy eating play an important part in both prevention and treatment. Together with an **increasingly multidisciplinary approach** (metabolic, endocrinological and nutritional as well as oncological) that takes account of **the uniqueness of each person with cancer, including the psychological and social aspects.**

➲ **Find out more.** If you have cancer and think you may be overweight or obese, talk to your doctor and your specialist.

Judgement and prejudice

Obesity is not simply a matter of individual choice or lifestyle: it is a chronic, progressive and relapsing disease with many causes. Stigma and discrimination often lead to people being blamed and held responsible for their own condition. Alongside preventing the risk factors, it is essential to promote a culture of inclusion and respect. Change starts with us too.

➲ **Find out more:** look beyond prejudice, with empathy. Behind overweight and obesity lie many different and complex causes.

Obesity and the National Chronic Disease Plan: what changes

Under Law 149 of 3 October 2025, obesity is recognised as a chronic disease. Under the new National Chronic Disease Plan, this translates into structured, continuous care pathways, multidisciplinary care and greater attention to prevention.

➲ **Looking ahead:** more attention to early diagnosis and a possible widening of access to drug treatment, nutritional support and education and prevention programmes.

Vaccinations

Vaccination and immunisation programmes are among the most effective ways of protecting health. They protect against disease and its complications and, where vaccination coverage is adequate, they contribute to the safety of the community as a whole.

Vaccination is among the greatest successes of public health: it has dramatically reduced the spread of, and deaths from, diseases that until a few decades ago were among the main causes of death even in the most developed countries, such as polio, measles, diphtheria, whooping cough, tetanus and human papillomavirus infection.

Vaccination is for every age

From childhood through adult life and into old age, it is an essential means of living longer and in better health.

In childhood, vaccination has significantly reduced deaths, complications and disability. **In adolescence**, the introduction of the human papillomavirus (HPV) vaccine, for example, has helped prevent several forms of HPV-related cancer.

In an **ever longer-lived society, vaccination in adults and older people plays a central part** in active, healthy ageing, particularly where chronic conditions are present.

Attention to at-risk groups is also important, whether by age, clinical condition or occupational exposure, and specific vaccination schedules exist for them.

Vaccine fatigue and misinformation

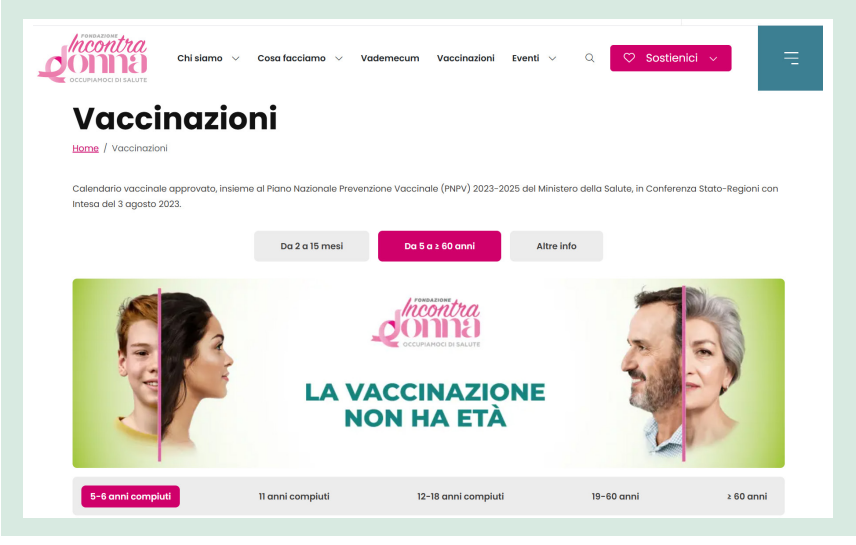
Recent years have seen a fall in vaccination uptake, linked in part to what is known as “vaccine fatigue” and to the spread of inaccurate information.

Misinformation is a real risk to individual and public health. This is why it is essential to promote communication that is clear, accessible and based on authoritative sources, strengthening the relationship of trust between the public and health professionals.

The IncontraDonna Foundation is committed to promoting information campaigns and practical guidance tools, such as the Vaccination Calendar Wheel, produced as part of the #LaVaccinazioneNonHaEtà campaign and in line with the National Vaccine Prevention Plan 2023-2025.

The Wheel is now available digitally, easy to consult and always up to date:

- find out more at IncontraDonna.it



RISK CATEGORIES BY AGE AND DISEASE

As we get older, the immune system tends to become less efficient (immunosenescence).

This, **together with the presence of chronic conditions, increases the risk of infection and of complications, some of them serious.**

Vaccination is therefore a practical, effective and sustainable way of improving the quality and the length of people's lives. The Vaccine Prevention Plan promotes wider provision of vaccination and better coverage, **with particular attention to the most vulnerable.**

People ≥ 60 years of age

Flu vaccination: Recommended and offered free of charge from the age of 60. It is a key means of reducing complications, hospital admissions and flare-ups of chronic conditions, particularly in the winter months. Because flu viruses change often, vaccination has to be repeated **every year,** in some cases alongside other vaccines.

Pneumococcal vaccination: Recommended as a priority from the age of 65. It can be given at the same time as the flu vaccine or at any time of year.

Shingles vaccination: Recommended and free at 65, and from 18 for people at risk. It significantly reduces the risk of developing shingles and post-herpetic neuralgia, one of the most common and most debilitating complications of the disease.

People at risk of disease

People with chronic conditions (cardiovascular, respiratory, metabolic, cancer, kidney or immune) **are at greater risk of infection and complications**.

This is why the National Vaccine Prevention Plan provides **recommended, free vaccination for them, whatever their age.**

For these people, vaccination matters all the more because it helps:

- **avoid interruptions or delays in treatment**
- reduce the risk of **serious complications**
- **protect quality of life**

LET'S CLEAR UP A FEW DOUBTS

Which vaccinations are free?

In general, all vaccinations recommended on grounds of age, health or risk factors are provided free of charge. There can be some variation between areas, with some Regions offering more. For more information, see your Region's website and the Ministry of Health website, under vaccination by age, category and condition.

How do I book a vaccination?

You can ask your family doctor or your child's registered paediatrician (pediatra di libera scelta), in some cases your pharmacist, or check your Region's website.

Can cancer patients get vaccinated?

Yes, and some vaccinations are strongly recommended, including those against flu, pneumococcus and shingles.

For people living with or beyond cancer, **vaccination is an integral part of care.** During and after cancer treatment the immune system can be more vulnerable: this increases the **risk of infections that can interfere with treatment** and affect quality of life.

This is why it is **important to protect yourself through vaccination**, on the advice of your family doctor, and to **involve family members and caregivers too.** The flu vaccine, for example, is free and actively offered to cancer patients and their families, precisely in order to reduce the risk of complications and support **continuity of care.**

TALK TO YOUR DOCTOR

Everyone's needs are different: the vaccination schedule can be adapted to your age, your state of health and any treatment you are having.

➔ RELIABLE INFORMATION MAKES THE DIFFERENCE

To make an informed choice, always rely on official sources and on talking to your doctor.

A letter from AIOM and Fondazione AIOM

Every year in Italy alone more than 390,000 new cancers are diagnosed. Cancer is not one single disease but more than 200 different ones. Compared with the recent past, we now understand these cancers better and know more about their different characteristics. From this we have developed new treatments that are more effective and tailored to the individual patient. In many cancers we are also achieving more early diagnoses, which means we can act with a better chance of success. All this progress has brought an overall 9% fall in cancer deaths in Italy over the past 10 years.

This is encouraging news, but it should not make us forget that we hold one genuinely powerful weapon, one that must always be promoted: prevention. Cancer can also be defeated by getting in first and following a few simple rules every day. 40% of cancers can be avoided by living healthily and, after a certain age, having certain tests regularly.

For all these reasons we have again contributed to the new Health Guide. AIOM, the Italian Association of Medical Oncology, is a scientific society founded back in 1973 which brings together Italy's medical oncologists. Fondazione AIOM was set up in 2005 with the aim of bringing clinical specialists, patients and nurses together in a single organisation. Together we work on every aspect of the fight against cancer and on supporting those affected by it, directly or indirectly.

In 2026, once again, AIOM and Fondazione AIOM are taking part in an important initiative aimed at raising awareness among the people of Italy.

Massimo Di Maio
President of AIOM

Francesco Perrone
President of Fondazione AIOM

Aiom ASSOCIAZIONE ITALIANA ONCOLOGIA MEDICA

AiomFondazione

FONDAZIONE Incontra donna
OCCUPIAMOCI DI SALUTE

The IncontraDonna Foundation promotes the right to health, cancer prevention and patient advocacy throughout Italy.

Founded in 2008 as a non-profit organisation, the IncontraDonna Foundation is today a national point of reference in cancer prevention, in the protection of patients' rights and in improving care pathways in breast cancer. In 2022 it became Fondazione IncontraDonna ETS, broadening its mission towards a health system that is fair, innovative and accessible, particularly in cancer prevention and care.

In particular, the Foundation works:

- **Actively encourage dialogue between institutions, the scientific community and associations** through effective, participatory *patient advocacy*, contributing to a health system that is fairer, more innovative and more accessible, and that meets the needs of the public and of cancer patients, with a focus on breast cancer.
- **To raise awareness of the importance of prevention and spread knowledge about healthy lifestyles**.
- **Improve public understanding** of the services provided by the Italian National Health Service.
- **Support patients and their caregivers**, including through free programmes for physical and mental wellbeing.
- **Support research in oncology.**

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IS A JOURNEY
WE TAKE TOGETHER.**

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