PART 3

Read the text below and answer questions 27–40.

DISORDERS AND THE FUTURE OF OLFACTORY SCIENCE

Loss or distortion of smell is more than an inconvenience. It can reduce safety, disrupt nutrition, and alter social life in ways that are easy to underestimate. People with anosmia may fail to detect smoke, gas leaks, or spoiled food, while those with parosmia experience familiar odours as unpleasant, metallic, or simply “wrong”. Because smell is tightly linked to flavour, these disorders can also change appetite and weight, sometimes pushing people toward highly salty or spicy foods that still produce sensation through non-olfactory pathways.

Clinicians separate causes of smell disorders into broad mechanisms, but real cases often overlap. Conductive problems reduce odour molecules reaching the receptors, as can happen with chronic sinus inflammation, polyps, or swelling after infection. Sensorineural damage affects the receptors or the olfactory nerve itself and may follow viral infections, head trauma, or exposure to certain chemicals. Central processing changes involve altered interpretation in the brain’s networks, which can appear after injury or alongside broader neurological change. Because the same symptom can reflect different sites of disruption, treatment is complicated from the outset.

Diagnosis therefore relies on more than asking patients to describe what they smell. Standardised tests can measure detection thresholds, identification, and discrimination between odours, helping clinicians distinguish reduced sensitivity from mislabelling or perceptual distortion. Interviews also target timing and triggers: sudden onset after infection suggests one pathway, while gradual decline with no clear cause suggests another. Yet routine smell screening remains uncommon in many healthcare systems. Limited clinic time is part of the explanation, but so is a historical tendency to treat smell as optional rather than clinically informative.

The neurological relevance of olfaction has increased interest in screening. Reduced olfactory ability can appear as an early sign in some neurodegenerative conditions, sometimes before obvious motor or memory symptoms. This does not mean smell loss causes disease, nor does it provide a stand-alone diagnosis. Instead, researchers treat it as a potential biomarker that may complement other indicators, such as cognitive measures, imaging findings, or genetic risk profiles. The promise is a low-cost window into changes in shared neural pathways, but the interpretation is probabilistic and must account for confounds such as nasal illness, medication effects, and cultural familiarity with test odours.

Treatment remains imperfect, but progress is emerging in a few domains. Inflammation-related loss may respond to targeted medical management, while injury-related disruption can require long recovery windows with uncertain outcomes. The most widely discussed behavioural approach is olfactory training: repeated exposure to a small set of odours over months, with attention to discrimination and gradual expansion of the odour set. The rationale draws on neuroplasticity, combining peripheral recovery with central re-learning as the brain recalibrates predictions about odour quality. Evidence suggests benefits for some patients, particularly when training is started early and continued consistently, though responses vary and relapse can occur.

Parosmia creates a distinct challenge because the problem is not absence but distortion. Patients may recognise that “coffee” is present, yet experience it as repulsive; the mismatch can be exhausting and socially disruptive. Clinicians often emphasise coping strategies alongside rehabilitation: identifying tolerated foods, managing triggers, and implementing safety planning for hazards that cannot be smelled. The psychological burden can be substantial. People may experience anxiety about undetected dangers, grief over lost pleasures, and embarrassment about body odour they can no longer monitor. Social withdrawal is not uncommon, which is why many clinicians argue that care should include mental-health support rather than focusing only on sensory tests.

Technology is expanding both diagnostic possibilities and ethical risk. “Electronic nose” devices are being developed to detect chemical signatures in breath, monitor environmental hazards, and potentially flag disease-related patterns. Advances in imaging and genetics are also mapping receptor variation and brain networks with increasing precision, raising the prospect of more personalised interventions. However, translating complex odour mixtures into robust real-world signals remains difficult, and the line between health screening and surveillance can blur. If odour signatures become easier to capture, they could function as biometric data, raising questions about consent, storage, secondary use, and who benefits from the information.

The future of olfactory science therefore sits at a crossroads of medicine, engineering, and ethics. Better tests and therapies could improve quality of life for millions, but this requires standardisation, clinician training, and long-term investment in services that are often treated as low priority. At the same time, expanding odour analytics will force societies to clarify rules about privacy and fairness. The central challenge is to develop tools that genuinely improve care while preventing biometric surveillance from becoming the default use case for smell-derived information.

Questions 27–31

Choose **TRUE** if the statement agrees with the information given in the text, choose **FALSE** if the statement contradicts the information, or choose **NOT GIVEN** if there is no information on this.

27 The passage suggests that smell disorders may influence eating habits because smell contributes to flavour.

28 The passage indicates that the same symptom can arise from disruption at different points in the olfactory pathway.

29 The passage states that routine clinical screening for smell is uncommon partly because clinics lack time.

30 The passage suggests that smell testing could be used on its own to diagnose neurodegenerative disease.

31 The passage states that electronic-nose devices will become standard in hospitals within the next decade.

Questions 32–36

Complete the summary below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

Diagnosis, treatment, and future directions

Standardised assessment can measure detection thresholds, identification and **32** ..... between odours. Reduced smell is being studied as a potential 33 **.....** alongside other indicators. A commonly used intervention is olfactory **34** ....., involving repeated exposure to a set of odours over time. Because patients may experience anxiety or grief, clinicians argue that care should include **35** ..... support. As odour signatures become easier to capture, they may function as **36** .....

Questions 37–40

Select the correct answer.

37 Why does the passage say it can be difficult to treat olfactory disorders effectively?

A Most cases resolve before any clinical testing is possible.
B Similar symptoms may reflect different kinds and locations of damage.
C Standardised tests cannot measure identification or discrimination.
D Treatment is straightforward once chemical exposure is confirmed.

38 What does the passage suggest about the connection between smell loss and neurodegenerative disease?

A Smell loss is presented as a direct cause of neurodegeneration.
B Smell loss is described as sufficient proof that the disease will develop.
C Smell loss may appear early because shared neural pathways are changing.
D Smell loss is said to occur only after clear memory symptoms emerge.

39 What is said about olfactory training in the passage?

A It may benefit some patients, particularly with early and consistent use.
B It is effective only when dysfunction follows chemical exposure.
C It works mainly by improving mood rather than sensory function.
D It is recommended only when standardised screening is unavailable.

40 What concern is raised about future technological developments?

A They will remove the need for standardisation in testing.
B They will eliminate the need for consent and data storage policies.
C They will prevent any environmental hazards from being detected.
D Odour-derived signatures could become a form of biometric information.

Answer Key

27. TRUE
28. TRUE
29. TRUE
30. FALSE
31. NOT GIVEN
32. discrimination
33. biomarker
34. training
35. mental-health
36. biometric data
37. B
38. C

39. A

40. D