

Active Birth Pools

Water Safety, Hygiene and Infection Control Assessment

Ficore® Water Birth Pools in Hospital Maternity Environments

Prepared as a source-mapped procurement, estates, water-safety and infection-control assessment

Core finding: Water birth pool safety depends on the integration of healthcare water-system governance, local infection-control protocols and product design. Active Birth Pools reduce avoidable risk by using seamless, smooth, chemically resistant, accessible and durable sanitary-ware forms that make cleaning, drying and inspection easier to perform consistently.

Executive Summary

A safe water birth pool is not simply a container that can be filled with warm water. In a hospital maternity environment, it is a sanitary ware product used in close contact with mothers, babies, midwives and clinical equipment. Its safety depends on the combined performance of water-system management, pool geometry, surface cleanability, drainage, fixtures, staff practice, cleaning protocols, infection-control governance and estates maintenance.

Active Birth Pools are hospital-grade sanitary ware products designed specifically for maternity environments. They are manufactured under documented quality-control procedures and designed with reference to applicable sanitary-ware and healthcare-estates guidance, including BS EN 14516 / EN 14516 for cleanability and durability, CEN/TR 17221 for sanitary-appliance Declaration of Performance guidance, and HBN 00-10 Part C for sanitary assemblies in healthcare facilities. CE documentation and Declarations of Performance are available where applicable. Plumbing and electrical components are specified to support local regulatory compliance, with third-party certified components used where required. [W3] [W8]

The core water-safety and infection-control finding is that risk is best reduced through design, not through cleaning alone. Local cleaning protocols, microbiology advice and manufacturer instructions remain essential, but they work best when the product itself has smooth, non-porous, seamless, accessible, fully drainable and chemically resistant surfaces. Active Birth Pools use Ficore® composite, seamless one-piece construction, recessed bonded handgrips, minimal fittings and open access around the pool to reduce dirt traps, simplify decontamination and support consistent clinical practice. [S1] [S2] [W1]

This document is written for maternity-service managers, midwives, infection-prevention teams, estates teams, water-safety groups and procurement decision makers. It is not a substitute for local risk assessment, local microbiology guidance, NHS water-safety procedures or manufacturer cleaning instructions. It is a product and design-led assessment showing how Active Birth Pools support those controls in practice.

1. Assessment Framework

Water safety, hygiene and infection control should be assessed across the whole pathway of use: water supply, filling, labour, birth, emptying, cleaning, drying, room turnaround, maintenance and long-term surface integrity. A pool that looks simple can still create avoidable risk if any of these stages are difficult to perform reliably.

This assessment uses six practical categories: water-system risk management; pool surface and cleanability; fittings and contamination points; drainage and drying; staff cleaning workflow; and long-term material durability. These categories align with the logic of NHS water-safety guidance, NICE intrapartum-care recommendations, standard infection-control precautions and healthcare sanitary-assembly principles. [W1] [W2] [W3] [W4]

The assessment also recognises the distinction between product design and local operation. The manufacturer can reduce inherent product risks by avoiding seams, crevices, absorbent materials, unnecessary metalwork and inaccessible fittings. The hospital remains responsible for water-system governance, local protocols, cleaning records, flushing regimes, microbiology input and staff training.

2. Water Safety Begins with the Healthcare Water System

A birth pool receives water from the healthcare premises water system. Product design can support safe use, but it cannot replace the need for a properly designed, commissioned, maintained and monitored water system. NHS HTM 04-01 gives guidance on hot and cold water supply, storage and distribution systems in healthcare premises and includes risk management for *Legionella*, *Pseudomonas aeruginosa* and other waterborne pathogens. [W2]

This means maternity units should treat pool use as part of their wider Water Safety Plan. The pool, taps, hoses, outlets, thermostatic controls, flushing routine, point-of-use fittings and cleaning procedures should be reviewed with the estates team, infection-prevention team and water-safety group. Where a pool is not used frequently, flushing and local water hygiene procedures become particularly important. [W2] [W5] [W6]

Active Birth Pools support this system-based approach by keeping plumbing and fixtures away from the rim wherever possible, avoiding unnecessary fittings on user-contact surfaces and allowing clear access for cleaning, inspection and maintenance. The aim is to avoid creating additional stagnant, hard-to-clean or poorly drained areas within the pool environment. [S1]

3. Hygiene by Design: Seamless, Smooth and Cleanable Surfaces

The most important infection-control feature of a birth pool is the surface that staff must clean after every use. If that surface is scratched, porous, crazed, joined, laminated, creviced or interrupted by fittings, cleaning becomes less reliable and more labour-intensive.

Active Birth Pools are made from Ficore, a proprietary solid composite manufactured as a chemically fused and heat-cured material rather than a laminated or bonded surface over a weaker core. Ficore is described as non-porous, resistant to chemicals and thermal shock, and harder than acrylic under hot-water conditions. These properties matter because birth pools are repeatedly exposed to warm water, body fluids, detergents and disinfectants. [S1] [S2]

Seamless one-piece construction is central to hygiene. A smooth shell without joins, dirt traps or unnecessary protrusions reduces the number of places where organic material and microorganisms can remain after cleaning. This design principle is consistent with HBN 00-10 Part C, which emphasises smooth form and easily cleaned surfaces for healthcare sanitary assemblies. [S1] [W3]

4. Fittings, Handgrips and the Avoidance of Dirt Traps

Every fitting on a birth pool should justify its presence. Surface-mounted metalwork, exposed bolts, rim-mounted fixtures, awkward joints and poorly bonded accessories can create cleaning problems. In a maternity setting, this is not a cosmetic issue; it is an infection-control and staff-workflow issue.

Active Birth Pools use recessed stainless-steel handgrips that are fully bonded into the pool structure. This provides mothers with secure support while avoiding bolt-through fittings and unnecessary rim obstructions. Fixtures are kept away from the rim where possible so that the rim remains smooth, accessible and easy to wipe, disinfect and dry. [S1]

The wider principle is simple: fewer interruptions to the surface mean fewer cleaning variables. This reduces dependence on staff having to work around avoidable design complications at the end of a busy clinical episode.

5. Drainage, Emptying and Drying

Water safety does not end when the mother leaves the pool. The post-use phase is critical because residual water, organic matter and damp surfaces can support microbial persistence if cleaning and drying are incomplete.

A birth pool should therefore drain efficiently, leave minimal residual water and allow staff to dry all surfaces thoroughly. The pool room should also support safe cleaning of surrounding surfaces, equipment and floor areas. Practical local procedures commonly include removal of debris before emptying, cleaning with a non-abrasive detergent, disinfection with an approved product, rinsing, and complete drying before the pool is returned to use. [W6]

Active Birth Pools support this workflow through smooth contours, accessible surfaces and drainage details intended to avoid difficult-to-reach areas. Ficore's chemical resistance also supports repeated cleaning and disinfection without premature surface degradation. [S1] [S2]

6. Cleaning Protocols and Local Infection-Control Governance

NICE states that baths and birthing pools should be kept clean using a protocol agreed with the local microbiology department or infection-control guidance and, for birthing pools, in accordance with the manufacturer's guidelines. This is the correct governance model: manufacturer design and instructions must be integrated with local clinical accountability. [W1]

Standard infection-control precautions apply because the pool, surrounding area and cleaning equipment may be contaminated by blood, body fluids, secretions, excretions, non-intact skin or contaminated environmental items. Staff should therefore use risk-assessed PPE and follow local decontamination procedures. [W4]

Active Birth Pools should be incorporated into each hospital's written cleaning procedure, cleaning record, room-turnaround checklist, water-flushing regime and escalation process. The product is designed to make these controls easier to perform consistently, but it does not remove the need for documentation, supervision or periodic audit.

7. Contamination During Use and Criteria for Leaving the Pool

During labour and birth, water must be kept as clear and clean as reasonably practicable. Visible solids should be removed promptly, and heavy contamination should trigger exit from the pool, emptying, cleaning, drying and refilling before re-entry if clinically appropriate. This approach appears in NHS maternity guidance and reflects a practical infection-control threshold. [W5]

Water temperature is also a safety issue. NICE recommends hourly monitoring of the woman and the water, with water temperature not above 37.5°C. Temperature control helps avoid maternal overheating and supports safe use of water during labour. [W1]

Product design supports but does not replace these clinical decisions. A pool should allow clear visual observation of the water, safe access for the midwife, simple debris removal, and rapid emptying and cleaning when the care situation changes.

8. Pseudomonas, Legionella and Waterborne Pathogen Risk

Waterborne organisms such as *Pseudomonas aeruginosa* and *Legionella* are relevant to healthcare water safety because they can persist in water systems, outlets, biofilms and damp environments. HTM 04-01 identifies waterborne pathogen risk in healthcare premises and should be the primary framework for estates and water-safety management. [W2]

Birth pools are not spa pools, and they should not be assessed as recirculating spa systems when they are filled, used, emptied and cleaned between uses. However, HSE guidance on spa-pool systems is a useful reminder that warm water systems can present infectious-agent risks when design, commissioning, operation, maintenance, testing and inspection are not properly controlled. [W7]

The design objective for a hospital birth pool is therefore to avoid spa-like risk characteristics: no recirculating water for clinical use, no hidden reservoirs, no difficult-to-access pipework connected to the pool shell, no unnecessary aeration, no inaccessible fittings and no surfaces that deteriorate into hard-to-clean areas.

9. Material Durability as an Infection-Control Factor

Surface durability is a hygiene issue because infection-control performance depends on the surface remaining cleanable over time. A pool that scratches, dulls, crazes, stains or delaminates may become harder to decontaminate confidently even if it remains structurally usable.

Ficore's documented hardness, chemical resistance, hot-water resistance and repairability help preserve cleanability over a long service life. This is a key distinction from lower-cost materials that may depend on coatings, laminated layers or reinforcement that can degrade, flex or become vulnerable after surface damage. [S1] [S2]

For procurement teams, this means infection-control value should be assessed over years of use, not only at installation. A surface that remains smooth, glossy, repairable and chemically resistant reduces the risk of avoidable replacement, withdrawal from use or increased cleaning burden.

10. Staff Workflow, PPE and Room Turnaround

Good infection control depends on reliable staff workflow. The more complex the pool is to clean, the more variation there is likely to be between users, shifts and departments. Design should therefore reduce the number of steps that require awkward reaching, special tools or exceptional attention to hidden details.

Active Birth Pools' wide rims, open access, smooth contours and minimal fittings support cleaning from stable working positions. Recessed grips, accessible interiors and unobstructed rims allow staff to clean and dry the same surfaces that mothers and midwives contact during care. [S1]

Local protocols should specify PPE, sequence of cleaning from clean to dirty areas, approved detergent and disinfectant, contact time, rinsing, drying, equipment cleaning, waste disposal, floor cleaning and record completion. A design that supports this sequence reduces staff workload and helps make compliance easier.

11. Estates, Procurement and Compliance Documentation

Water birth pools should be procured as hospital sanitary ware for maternity environments, not as domestic baths or leisure products. Procurement should therefore consider sanitary-ware standards, cleanability, durability, Declaration of Performance documentation where applicable, water-system integration, plumbing compliance, electrical safety and local installation requirements.

CEN/TR 17221 provides guidance on CE marking and preparation of Declarations of Performance for sanitary appliances and includes EN 14516 among relevant harmonised sanitary-appliance standards. HBN 00-10 Part C provides healthcare sanitary-assembly principles such as smooth, easily cleaned forms and infection-control considerations. [W3] [W8]

Active Birth Pools' compliance position should be supported by product documentation, installation information, maintenance guidance, cleaning instructions and component certification where required. The local hospital should integrate these documents into project files, water-safety records and infection-control sign-off processes.

12. Comparative Risk and Value Assessment

The water-safety and infection-control case for Active Birth Pools is based on reducing risk at source. Cleaning protocols are essential for every product, but some products make those protocols easier to perform consistently than others.

Acrylic and fibreglass pools can be smooth when new, but may be more vulnerable to scratching, flexing, surface dulling, gelcoat damage, laminated-layer problems or dependence on support structures. These features can affect cleaning confidence and service life under heavy clinical use. Ficore's solid composite construction, surface hardness, chemical resistance and repairability create a stronger long-term hygiene profile. [S2]

Whole-life value is therefore linked directly to infection-control performance. A pool that remains easy to clean for decades has lower risk of premature replacement, lower maintenance burden and greater clinical confidence.

Comparative Assessment Table

Assessment factor	Active Birth Pools Ficore water birth pool	Typical acrylic pool	Typical fibreglass pool
Surface construction	Solid Ficore composite; not laminated or bonded; seamless one-piece form.	Acrylic sheet commonly reinforced; surface integrity depends on material thickness and support.	Gelcoat/resin/fibreglass layers; surface coat is critical to hygiene performance.
Cleanability	Smooth, non-porous contours; minimal fittings; recessed bonded grips; designed to reduce dirt traps.	Can be smooth when new, but fittings, scratches and reinforcement design vary by product.	More vulnerable to surface wear and damage; cleanability depends heavily on gelcoat condition.
Chemical resistance	Documented resistance to many acid and alkaline cleaning solutions; supports repeated decontamination.	Chemical compatibility varies by substance, concentration, temperature and exposure time.	Depends on gelcoat and laminate condition; damaged areas may be harder to restore.
Drainage and drying	Accessible contours and drainage details intended to support complete emptying, cleaning and drying.	Product-dependent; poorly detailed contours can retain water.	Product-dependent; surface wear and fittings can complicate drying.
Waterborne pathogen control	Supports local HTM 04-01 and infection-control protocols by avoiding hidden reservoirs and unnecessary fittings.	Depends on installation, fittings and use protocol.	Depends on installation, fittings and surface integrity.
Long-term hygiene value	Strong because surface durability, repairability and chemical resistance preserve cleanability.	Moderate; may be acceptable but more vulnerable to scratching and dulling.	Lower in demanding clinical use where surface wear and repair quality are concerns.
Procurement value	Higher initial investment but stronger whole-life infection-control and durability profile.	Often lower initial cost; whole-life value depends on service life.	Usually low initial cost; higher replacement and hygiene-confidence risk.

13. Practical Checklist for Hospitals

Before installation: confirm room layout, drainage, water supply, thermostatic controls, electrical requirements, activity space, cleaning access, emergency access and Water Safety Group review. Confirm whether local risk assessment requires sampling, flushing protocols or outlet controls. [W2]

Before use: confirm pool cleanliness, room readiness, water temperature, equipment availability, staff competence and suitability of the woman for water labour or birth according to local guidance. [W1] [W5]

After use: remove visible debris, empty the pool, clean with approved detergent, disinfect according to local protocol and manufacturer guidance, observe required contact time, rinse if required, dry thoroughly, clean associated equipment and surrounding surfaces, dispose of waste correctly and complete the cleaning record. [W4] [W6]

Periodic review: audit cleaning records, inspect surfaces, verify drainage and drying, review staff feedback, check component condition, review water-safety procedures and update local protocols when guidance or product documentation changes.

14. Water Safety, Hygiene and Infection-Control Conclusion

Water birth pool safety is achieved through the integration of product design, healthcare water-system governance and disciplined local practice. No pool can make infection-control procedures unnecessary. However, a well-designed hospital-grade sanitary ware product can make those procedures simpler, more reliable and more auditable.

Active Birth Pools reduce avoidable risk by combining Ficore composite, seamless one-piece construction, smooth cleanable contours, minimal fittings, bonded recessed handgrips, accessible drainage and robust long-term surface performance. These features support the requirements of maternity care, infection-control teams, estates teams and procurement decision makers.

The central conclusion is that water safety and hygiene are not add-on features. They are design outcomes. In maternity environments, the safest product is the one that helps staff do the right thing every time: fill safely, observe clearly, support the mother, empty completely, clean thoroughly, dry reliably and return the room to safe use with confidence.

Appendix A: Source Mapping

The source mapping below links each marker used in the assessment to the supporting source, the specific evidence used and its relevance to the water-safety, hygiene and infection-control argument.

Marker	Source	Evidence used	Relevance to assessment
S1	Active Birth Pools - Proprietary Materials, Innovative Ergonomic Design and Bespoke Engineering document	Ficore composite, seamless one-piece construction, smooth contours, minimal fittings, recessed bonded handgrips, hygiene-by-design, chemical resistance and long service-life claims.	Supports product-specific design, material and hygiene claims.
S2	Active Birth Pools Sustainability and Life Cycle Value Assessment	Ficore durability, repairability, surface hardness, chemical resistance, heat retention, reduced replacement burden and comparison with acrylic/fibreglass.	Supports whole-life hygiene value and comparative material assessment.
W1	NICE NG235 Intrapartum care recommendations	Water temperature should be monitored hourly and not exceed 37.5°C; baths and birthing pools should be kept clean using local microbiology/infection-control protocol and manufacturer guidance.	Supports clinical governance, temperature control and cleaning protocol requirements.
W2	NHS England HTM 04-01 Safe water in healthcare premises	Guidance on legal requirements, design, maintenance and operation of healthcare hot and cold water systems; includes Legionella, Pseudomonas aeruginosa and other waterborne pathogens.	Supports water-system governance and Water Safety Group framing.
W3	NHS England HBN 00-10 Part C: Sanitary assemblies	Healthcare sanitary assemblies should have smooth form and easily cleaned surfaces; overflows are avoided for infection-control reasons; clinical basin examples specify hands-free or lever operation, TMV3 and concealed services.	Supports sanitary-ware design principles applied to maternity pool specification.
W4	NHS England National Infection Prevention and Control Manual - Standard Infection Control Precautions	SICPs apply in all care settings to reduce transmission from recognised and unrecognised infectious sources, including body fluids and contaminated environmental items.	Supports PPE, cleaning and universal precautions framing.
W5	NHS Greater Glasgow & Clyde / Right Decisions: Use of Water for Labour and Birth	Midwives should be aware of infection-control implications; flush if unused for 24 hours; remove visible solids; heavy contamination requires exit, emptying, cleaning, drying and refilling.	Supports practical in-use contamination and cleaning decisions.
W6	Watford General Hospital cleaning and disinfecting water birth pool procedure	Example local procedure: 24-hour cleaning record, 2-minute flushing, PPE, debris removal, detergent cleaning, disinfection contact time, rinsing, drying and equipment cleaning.	Supports practical room-turnaround workflow and record-keeping.
W7	HSE HSG282 Control of legionella and other infectious agents in spa-pool systems	Warm water systems can be recognised sources of infectious-agent risk where design, operation, maintenance, testing and inspection are not controlled.	Used only as a general waterborne-risk reminder, not to classify birth pools as spa pools.
W8	BSI PD CEN/TR 17221:2018 guidance listing	Guidance on CE marking and preparation of Declarations of Performance for sanitary appliances; intended for harmonised CEN/TC 163 sanitary-appliance standards including EN 14516.	Supports compliance-documentation and sanitary-appliance framing.

Appendix B: Reference List

S1 Active Birth Pools. Proprietary Materials, Innovative Ergonomic Design and Bespoke Engineering: Why Active Birth Pools Deliver Superior Safety, Value and Performance. Uploaded source document.

S2 Active Birth Pools. Sustainability and Life Cycle Value Assessment: Ficore Water Birth Pools Compared with Acrylic and Fibreglass Pools. Uploaded source document.

W1 NICE. Intrapartum care, NG235, recommendations 1.6.11-1.6.12.
<https://www.nice.org.uk/guidance/ng235/chapter/Recommendations>

W2 NHS England. Health Technical Memorandum 04-01: Safe water in healthcare premises.
<https://www.england.nhs.uk/publication/safe-water-in-healthcare-premises-htm-04-01/>

W3 NHS England. Health Building Note 00-10: Part C - Sanitary assemblies.
https://www.england.nhs.uk/wp-content/uploads/2021/05/HBN_00-10_Part_C_Final.pdf

W4 NHS England. National infection prevention and control manual for England: Chapter 1, Standard infection control precautions. <https://www.england.nhs.uk/national-infection-prevention-and-control-manual-nipcm-for-england/chapter-1-standard-infection-control-precautions-sicps/>

W5 NHS Greater Glasgow & Clyde / Right Decisions. Use of Water for Labour and Birth (503).
<https://rightdecisions.scot.nhs.uk/maternity-gynaecology-guidelines/maternity/common-obstetric-problems-intrapartum-labour-ward/use-of-water-for-labour-and-birth-503/>

W6 Active Birth Pools. Watford General Hospital: Cleaning & disinfecting water birth pool and surrounding area.
<https://activebirthpools.com/watford-general-hospital-instructions-cleaning-disinfecting-water-birth-pool-surrounding-area-2014/>

W7 Health and Safety Executive. HSG282: Control of legionella and other infectious agents in spa-pool systems.
<https://www.hse.gov.uk/pubns/books/hsg282.htm>

W8 BSI PD CEN/TR 17221:2018 listing. Guidance on the application of CE marking and preparation of Declaration of Performance for sanitary appliances. <https://standards.nimonik.com/products/bsi/pd-cen-tr-17221/>

Document status note

This assessment is intended as a source-mapped procurement and design-support document. It should be reviewed against each hospital's current local policies, Water Safety Plan, infection-control procedures, microbiology advice, installation drawings and manufacturer instructions before use in a live clinical setting.